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The Nobel Lecture

ON

HOW THE FIGHT AGAINST TUBERCULOSIS NOW STANDS.[1]

BY PROFESSOR ROBERT KOCH.

ONLY 20 years ago tuberculosis, even in its most dangerous form, pulmonary phthisis, was not considered infectious. By the labours of Villemin and the experimental investigations of Cohnheim and Salomonsen, indeed, certain proofs had already been given that this view was erroneous. But it was not till the tubercle bacillus was discovered that the etiology of tuberculosis was placed on a sure foundation and the conviction gained that it is not only a parasitic —i.e., an infectious—but also an avoidable disease. Even in my first publications on the etiology of tuberculosis I pointed to the dangers which arise from the dissemination of the secretions of those suffering from pulmonary phthisis containing bacilli and called for prophylactic measures against the pestilence. But my words were not attended to. The reason was that it was still too early and they therefore could not yet meet with full understanding. On this, as on so many similar occasions in the history of medicine, it happened that a long time had to elapse before old prejudices were overcome and the new facts recognised by medical men as correct. But then the recognition of the infectious nature of tuberculosis gradually spread and struck ever deeper root, and the more the conviction of the dangerous nature of tuberculosis made its way the more the necessity for protection against it forced itself upon mankind. The efforts made in this direction first made themselves noticeable in instructive and warning publications. Soon after arose sanatoriums for consumptives suggested by the success of Brehmer's dietetic and hygienic treatment of pulmonary diseases, and these sanatoriums were followed by convalescent homes, seaside homes, dispensaries, and similar institutions. A vast activity on the part of societies developed. International congresses were held. Notification, optional or obligatory, was introduced here and there. In many states and cities completely elaborated laws against the danger of tuberculosis were enacted. I suppose there is hardly any country now in which the conflict against tuberculosis has not been begun in one way or another, and it is exceedingly satisfactory to see how universally and how energetically the dangerous enemy is now being attacked. But, on the whole, all these efforts have borne a decidedly unequal character; the goal, indeed, was the same for all, but they chose quite different ways to it. In one country all was to be attained by instruction, in another it was hoped that tuberculosis could be got rid of by therapeutic measures, and in a third efforts were directed almost exclusively against the dangers with which bovine tuberculosis is said to threaten us. Quite lately, it is true, a certain equalisation has set in, inasmuch as the several countries no longer proceed quite so independently as before, and the one adopts from the other those means of conflict which seem to have stood the test of experience. Considering, however, how great a variety still exists in the ways in which tuberculosis is combated, it is nevertheless necessary to inquire what measures are most consonant with the demands of science and with the general experience that has been gained in the combating of pestilences.

Before addressing ourselves, however, to the answering of this question we must attain to absolute clearness as to the manner in which infection in tuberculosis takes place—i.e., as to how the tubercle bacilli get into the human organism, for the sole purpose of all prophylactic measures against a pestilence must be to prevent the entrance of the germs of disease into man. Now, as regards infection with tuberculosis only two possibilities have hitherto presented themselves—namely, infection by tubercle bacilli emanating from tuberculous human beings and infection by tubercle bacilli contained in the flesh and milk of tuberculous cattle. After the investigations which I have made hand-in-hand with Schütz as to the relation between human and bovine tuberculosis we may dismiss this second possibility, or at least regard it as so slight that this source of infection as compared with the other falls quite into the background. We arrived, namely, at the result that human tuberculosis and bovine tuberculosis are different from one another and that bovine tuberculosis is not transmissible to man. With reference to this latter point, however, I wish, in order to prevent misunderstandings, to add that in saying this I mean only those forms of tuberculosis that have to be taken into account in connexion with the combating of tuberculosis as an epidemic disease—namely, generalised tuberculosis and above all pulmonary phthisis. It would lead us too far if I were to go deeper into the very lively discussion this question has given rise to; I must reserve this for another occasion. On this head I wish only to add that the testing of our investigations which has been carried out with the utmost care and on a broad basis in the Imperial Office of Health in Berlin has led to a confirmation of my opinion, and that, moreover, the harmlessness of the bacilli of bovine tuberculosis to man has been directly proved by the repeated inoculating of human beings with the material of bovine tuberculosis by Spengler and Klemperer. In connexion with the combating of tuberculosis, then, only the tubercle bacilli emanating from human beings have to be taken into account.

But now the disease does not in all cases assume such forms that tubercle bacilli are expelled in a manner deserving of attention. Strictly speaking, it is only those who suffer from laryngeal and pulmonary tuberculosis that produce considerable quantities of tubercle bacilli and disseminate them in a dangerous manner. At the same time, however, attention must be paid to the fact that it is not only the secretion of the lungs called sputum that is dangerous as containing bacilli, but that according to Flügge's investigations the minutest droplets of phlegm that are flung into the air by the patients when they cough and clear their throats and even when they speak also contain bacilli and can thereby cause infection. We therefore arrive at the quite sharply defined limitation that only those tuberculous patients who suffer from laryngeal or pulmonary tuberculosis and whose sputa contain bacilli are dangerous to those around them in a noteworthy degree. This form of tuberculosis is called "open" in contrast to the "closed" form, in which no tubercle bacilli are given off to those around. But among patients with open tuberculosis also distinctions are to be made as regards the degree of dangerousness to be ascribed to them. It is matter of common observation that such patients live for years in their families without infecting anyone. In hospitals for pulmonary phthisis it is in certain circumstances possible that no cases of infection occur among the attendants, or at any rate so few that in former times it was thought necessary to regard this as a proof of the non-contagiousness of tuberculosis. But if one examines such cases more carefully it is found that there are good reasons for the apparent non-contagiousness. It then appears that the patients in question are people who are very cautious about their sputum, see to the cleanliness of their dwellings and clothing, and live in copiously aired and lighted rooms, so that the germs that get into the air can be swiftly swept away by the current or killed by the light. If these conditions are not fulfilled there is no lack of infection even in hospitals and the dwellings of the well-to-do, as experience teaches daily. And it becomes the more frequent the more uncleanly the patients are as regards their sputum, the more lack there is of light and air, and the more closely crowded together the sick live with the hale. The danger of infection becomes especially great when healthy people have to sleep in the same rooms with sick people and even, as unfortunately still frequently happens among the poor, in the same bed. This kind of infection has struck attentive observers as so important that tuberculosis has been frankly and justly called a dwelling disease.

To recapitulate briefly, the essential facts regarding infection in tuberculosis are these. Patients with closed tuberculosis are to be regarded as quite harmless. Even those who suffer from open tuberculosis are harmless so long as the tubercle bacilli expelled by them are prevented by cleanliness, airing, &c., from infecting. The patient becomes dangerous only when he is personally uncleanly or becomes so helpless in consequence of the far-advanced disease that

[1] This lecture was delivered at Stockholm on Dec. 12th, 1905, but is now published for the first time in English.

he can no longer see to the suitable removal of the sputa. For the healthy the danger of infection increases with the impossibility of avoiding the immediate neighbourhood of a dangerous patient—i.e., in densely inhabited rooms, and quite specially if the latter are not only overcrowded but also badly ventilated and inadequately lighted.

I now address myself to the task of testing the measures now in force as to the degree in which they take the etiological facts just stated into account. If, in doing this, I confine myself mainly to German circumstances the reason is that they are best known to me and that it would not be practicable to go into the circumstances of other countries in a single lecture.

The starting-point for the combating of all pestilences is *notification*, because without it most cases of disease would remain unknown. So we must demand it for tuberculosis too. But in the case of this disease the competent parties have, out of consideration for the patients, scrupled to prescribe notification to the medical men or those on whom the obligation lies in other cases. Justly recognising, however, that not only consideration for the sick but also protection for the healthy is in question here, the authorities have in not a few places introduced notification, first optional, and then, when it was found that the dreaded disadvantages did not occur, obligatory. As, therefore, experience has already proved the practicability of notification in the case of tuberculosis it ought to be introduced everywhere. Its purpose, however, can be fully attained if it is limited to cases that are dangerous to those around the patients—i.e., to patients with open tuberculosis under hygienically unfavourable circumstances. If we make notification obligatory on medical men we must at the same time take care that they are able to judge of the cases in question correctly, especially as regards the existence of open tuberculosis. This can be done only by establishing institutions in which the sputum of the patients is examined for tubercle bacilli gratis. They may be independent or, better perhaps, in connexion with hospitals, ambulatory clinics, or the care-stations which I shall mention later. Such establishments for the examination of sputum already exist in some countries but their number is far too small. This necessity will have to be adequately provided for. But now, once they are known, what is to be done with the patients who are to be regarded as dangerous? If it were possible to lodge them all in hospitals and thus to render them comparatively harmless tuberculosis would diminish very rapidly. But for the present, at least, this is absolutely out of the question. The number of tuberculous patients in Germany, for instance, for whom hospital treatment would be requisite is reckoned at more than 200,000. It would require more means than can be got to lodge such a number of patients in hospitals. But it is also not at all necessary to lodge all tuberculous patients at once in hospitals. We may count upon a decrease of tuberculosis, though a slower one, if a considerable fraction of these patients are admitted to suitable establishments. Let me remind you, in this connexion, of the exceedingly instructive example of the combating of leprosy in Norway. There, too, they have not isolated all the lepers but only a fraction of them, including, however, just the most dangerous, and the result has been that the number of the lepers, which in 1856 still amounted to nearly 3000, has now gone down to about 500. This is the example to be followed in the combating of tuberculosis and if all cases of pulmonary phthisis cannot be provided for, at least as many as possible, including the most dangerous—i.e., those in the last stage of the disease—ought to be lodged in hospitals.

In this respect, however, more is already done in many places than is generally supposed. In Berlin during the last decade more than 40 per cent. of the cases of pulmonary phthisis died in hospitals. In Stockholm, too, the state of affairs must be very favourable in this respect, for Carlsson states in his publication on the combating of tuberculosis in Sweden that 410 cases of pulmonary phthisis are being cared for in the hospitals of this city, no small number for a city of 300,000 inhabitants. The number of patients that are thus placed in circumstances under which they can no longer infect is very considerable and cannot fail to influence the course of the pestilence. In connexion with this I wish to draw your attention to a phenomenon which deserves the greatest consideration—I mean the equable and very considerable decrease of the consumption death-rate in some countries. In England this decrease has been going on for about 40 years. Strange to say, it is less in Scotland, and in Ireland there is no decrease at all. In Prussia the decrease of tuberculosis is very marked. During the ten years from 1876 to 1886 the pulmonary phthisis death-rate still stood equally high. Since 1886, however, it has fallen from year to year and the decrease is now more than 30 per cent.—i.e., about one-third. It has been calculated that, though the population has meanwhile increased, the number of people who die every year from pulmonary phthisis in Prussia is now about 20,000 less than it was 20 years ago. In other countries, Austria and Hungary, for instance, the pulmonary phthisis death-rate has remained at the former very considerable height. It is hard to give reasons for this singular behaviour of tuberculosis in the said countries. Probably several factors have coöperated. The improvement of the situation of the lower classes and the better knowledge of the danger of infection, the consequence of which is that people no longer unwittingly expose themselves to it, have certainly helped to reduce tuberculosis. But I am firmly convinced that the better provision for patients in the last stage of pulmonary phthisis—namely, the lodging of them in hospitals, which is done in England and in Prussia to a comparatively large extent—has contributed most to the improvement. I am specially confirmed in this opinion by the behaviour of tuberculosis in Stockholm where, as already mentioned, comparatively many cases of phthisis are tended in hospitals and where also in the course of the last decades the death-rate from phthisis has gone down 38 per cent. From this, however, we are to derive the lesson that the greatest stress is to be laid on this measure—namely, *the placing of cases of pulmonary phthisis in suitable establishments*, and far more care should be taken than hitherto that such patients do not die in their dwellings, where, moreover, they are for the most part in a helpless situation and inadequately nursed. If cases of pulmonary phthisis are no longer, as hitherto, rejected by the hospitals as incurable; if, on the contrary, we offer them the best imaginable nursing gratis and can even in some cases hold forth the hope of cure; if, moreover, their families are cared for during their illness, not the slightest compulsion will be necessary to induce a still much greater number of these unfortunate patients to go to hospitals than at present.

I now pass to the discussion of a measure the purpose of which is to combat tuberculosis in quite a different way—I mean the sanatoriums. They were founded in the expectation that in them a large number, perhaps even the majority, of tuberculous patients might be cured. If this supposition were correct sanatoriums would decidedly be among the best weapons in the battle against tuberculosis. But the results obtained by the sanatoriums have been the theme of much debate. Some people maintained that they cured up to 70 per cent. of their patients: others that they did no good at all. Now it must be admitted that the figure "70 per cent." has reference not to real cures but only to cases in which patients had been enabled once more to earn a livelihood. From the prophylactic standpoint, however, that is no gain, for a patient who is not perfectly cured but only so far bettered that he can earn again for awhile, afterwards falls into the condition of open tuberculosis and suffers all the consequences already described. The reason of the comparative fewness of the real cures effected in sanatoriums evidently is that the duration of the treatment in them is much too short and that very many of the patients they receive are in so far advanced a stage that the dietetic and hygienic treatment no longer suffices. Many sanatorium medical officers have already recognised this. They therefore take care that only patients who are in an early stage of tuberculosis are received, and besides the sanatorium treatment they apply the preparation of tuberculin in order to effect more rapid, and especially more lasting, cures. In this way considerably better results than formerly have already been obtained in several sanatoriums and it is probable that, if the sanatoriums adopt this course and hold to it, they will do quite essential service in the combating of tuberculosis, at least in Germany, where in more than a hundred sanatoriums about 30,000 patients are already treated every year.

If thus provision is made for as great a number of patients in an advanced stage of phthisis as possible by their admission to hospitals and for first-stage patients by the sanatoriums, a great number of patients still remain whom

also it is absolutely necessary to take into account. These are the advanced-stage patients who remain in their dwellings and those who are already too far gone for the sanatorium treatment but not yet so far that they are unfit for work and must go to a hospital. Should these tuberculous patients, whose number, as already said, is very considerable, be left to their fate, a great gap would be made thereby in the line of battle. The merit of having filled this gap belongs to Calmette, to whom occurred the happy idea of providing for this class of patients by the *dispensaries* organised by him. Calmette's suggestion has met with approval everywhere, especially in Germany, where more than 50 such dispensaries already exist and where many cities are about to provide themselves with such. It was in Germany, too, that the dispensaries, which were originally intended only to give working people gratuitous advice, medicinal treatment, and at the same time material support, were widened and completed in an important manner under the guidance of Pütter and Kayserling. In their present form they are intended to serve not one particular class only but all helpless tuberculous patients in every way. The patient is visited in his dwelling and instruction and advice as to cleanliness and the treatment of the sputum are given to him and his family. If the domiciliary conditions are bad, money is granted in order to render the separation of the patient from the healthy members of his family possible and thus to convert a dangerous patient into a comparatively harmless one by hiring a suitable room or even another dwelling. In other respects also poor families are supported by gifts of suitable provisions, fuel, &c. The dispensary itself does not undertake the treatment of the patients, in order not to get into conflict with practitioners, but it takes care that they are placed under medical treatment and, if advisable, admitted to a hospital, a sanatorium, or a health-recruiting home. One specially important part of their work is that they supervise the family, and especially the children, and have them examined from time to time to see whether infection has taken place in order to be able to bring help as early as possible. In this way these dispensaries really take care of poor consumptives and they have therefore with perfect justice been named "care-stations." I regard them as one of the most powerful means of combating tuberculosis, if not the most powerful of all, and I believe that when, as we may hope, a dense net of care-stations overspreads the land they are destined to do a most blessed work.

The measures hitherto discussed—namely, notification, hospitals, sanatoriums, and care-stations, are the heavy artillery in the battle against tuberculosis. But there are lighter weapons, too, which cannot themselves exercise so incisive an effect, but the coöperative help of which we cannot dispense with. Among these I reckon in the first place all efforts to *instruct the people as to the danger of tuberculosis* and to keep the interest of the masses in the combating of tuberculosis awake by popular publications, lectures, exhibitions, and other such means. Later, when there are care-stations enough, the said instruction will emanate from them so copiously that we shall hardly need special arrangements for that any more, but for the present we cannot dispense with them. Very valuable help is also given by the numerous associations which take part in the combating of tuberculosis by collecting money in order to found sanatoriums and health recruiting homes, endow free beds, support the families of poor phthisical patients, &c. We must not shut our eyes to the fact that the combating of tuberculosis demands a great deal of money. It is at bottom only a money question. The more free beds are endowed for cases of pulmonary phthisis in well organised and conducted establishments for the cure and care of the sick, the more adequately the families of tuberculous patients are supported, so that the latter may not be deterred from going to such establishments by anxiety on behalf of those belonging to them, and the more care-stations are established, the more rapidly will tuberculosis as an epidemic disease decrease. As, however, it is hardly to be expected that the municipalities, many of which already make very large sacrifices for the tuberculous patients, will be able in the immediate future to do justice to all requirements in this respect, private help is greatly to be desired. Care must be taken, however, that the means collected by the associations or placed at disposal by individual benefactors be not applied to minor matters, but accrue to the benefit of the most effective measures, above all the establishments for the accommodation of the sick and the care-stations.

In the conflict against tuberculosis hardly anything remains for the State to do, and yet it, too, can take an effective part in it. It can by legislation introduce *obligatory notification*, which already exists for all other important epidemic diseases, for tuberculosis too. In several States this has already been done, and it is to be hoped that the other civilised States will soon follow this example. Many demand also a legal basis for the compulsory isolation of patients who are a special source of danger to those around them. My experience in the combating of pestilences, however, teaches that we can dispense with this hard measure. If only we as far as possible facilitate the admission of consumptives to suitable establishments for the sick in the manner already indicated, we shall attain all we need. In one respect, however, the State can render aid of extraordinary utility with a view, namely, to *bettering the unfavourable domiciliary conditions*. Against this evil private activity is almost powerless, whereas the State can easily provide a remedy by suitable laws. If we look back on what has been done in the last few years in the combating of tuberculosis as an epidemic disease we cannot but get the impression that a truly important beginning has been made. The fight against tuberculosis was not dictated from above and has not always developed in accordance with the rules of science. No; it emanated from the people itself who have rightly recognised its deadly enemy at last. It is pressing forward with elementary force, sometimes in a rather wild and disorderly manner but gradually striking more and more into the right paths. The fight is kindled all along the line and the enthusiasm for the lofty purpose is so general that flagging is not to be feared. If it goes on in this vigorous style victory is sure.

Three Lectures
ON
THE PRESERVATION OF HEALTH AMONGST THE PERSONNEL OF THE JAPANESE NAVY AND ARMY.

Delivered at St. Thomas's Hospital, London, on May 7th, 9th, and 11th, 1906,

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LECTURE II.[1]

Delivered on May 9th.

MR. PRESIDENT AND GENTLEMEN,—On Nov. 29th, 1883, I had the honour of being presented to his Imperial Majesty at Akasaka Palace, and on this occasion explained my views as regards the cause of, and preventive measures for, beri-beri.

THE METHODS FOR INVESTIGATING THE CAUSE OF BERI-BERI.

1. As we could not discover the true origin of beri-beri in spite of examination of symptoms, pathology, &c., we must use some other means. 2. In order to examine the food necessary for nourishing the human body it is important to know the comparative scale of nutritive elements—that is, proteids, fat, carbohydrates and salts, and of carbon and nitrogen. 3. On examining the food taken by those suffering from beri-beri it is found that the proportion of these elements is not correct. 4. The causes of this disease are due to the loss of equilibrium in the proportion of nutritive elements and also to the deficiency of a certain element—that is, the composition of food is not correct. 5. The occurrence of beri-beri due to the deficiency of a certain element—that is, proteids—is shown in the examples of the long voyages of the *Asama*, *Tsukuba*, *Ryujo*, &c. The disease does not occur if the food is well supplied; for example, it does not occur among men having a sufficient

[1] Lecture I. was published in THE LANCET of May 19th, 1906, p. 1369

supply of food or among officers, and in voyages with long stoppages at ports and short sailings. From 1882 to 1883 when the *Ryujo* went for long voyages, the disease disappeared completely as soon as she arrived at Hawaii and was supplied with fresh articles of food. 6. High temperature, moisture, marshy air, over-crowding, hard labours, nervous exhaustion, coarse food, &c., cannot be considered the chief causes of beri-beri, because if they are the causes both Europeans and Americans ought to suffer, but on the contrary they do not. 7. On considering the question both from theoretical and practical points it seems quite reasonable therefore to suppose that the true cause of beri-beri lies in a wrong method of diet. In December, 1883, instead of the very simple rules of the previous year, I compiled a new book of instructions consisting of 77 articles and 22 blank forms, and had it used throughout the navy, with the approval of the Minister of the Navy. This book, since several times revised, is still in use. On Jan. 15th, 1884, Jungi Kawamura, the Minister of the Navy, issued the following notification to the navy:—"It is hereby ordered that the following regulations in regard to the supply of food to the petty officers and men in ships and barracks shall be observed from Feb. 1st, 1884."

REGULATIONS IN REGARD TO THE SUPPLY OF FOOD TO THE PETTY OFFICERS AND MEN IN SHIPS AND BARRACKS.

Article I.—The food of petty officers and men in ships and barracks shall be under the control of the principal officer under whom they are serving and the articles of food shall be bought with the money allotted for the purpose and supplied to them.

Article II.—The articles of food shall be as follows: Rice, bread, beef (fresh or preserved), salted beef, salted pork, fowls or eggs, fish, *miso*,[2] shoyu (sauce), vegetables (potatoes, carrots, radishes, cabbages, and onions), beans, wheat, flour, tea, fats and oils (suet or lard, butter, olive oil, oil of the sesamum orientale), sugar (and starch), milk, vinegar, spices, alcoholic liquors, salt, pickles.

Article III.—The articles of food shall be bought by the paymaster by order of the officer in command and they shall be given out after being examined by the surgeon.

Article IV.—A record of the articles of food shall be kept by the paymaster, which record shall frequently be examined by the officer in command.

Article V.—If the preserved articles of food are found to be in bad condition the matter shall be reported by the paymaster to the officer in command, who in turn shall order the surgeon or other officer to examine them and shall report the matter to the Minister of the Navy Department through the chief of different departments.

TABLE XI.—*Daily Allowance of Food for One Healthy Person (fixed on Feb. 2nd, 1884).*

	Momme.	Ounces.	
Rice	180	=22·5	Bread, 160 momme (20 oz.); biscuit, 130 momme (16·25 oz.)
Meat, fresh	80	=10·0	When eggs are substituted, each egg to be reckoned as equivalent to 10 momme (1·25 oz.)
Fish, fresh	40	= 5·0	Where there is no fish, 20 momme (2·5 oz.) of meat may be substituted.
Miso	14	= 1·75	—
Shoyu... ...	16	= 2·0	—
Vegetables..	120	=15·0	—
Beans... ...	12	= 1·5	—
Wheat flour	20	= 2·5	—
Tea	2	= 0·25	—
Fat or oil ...	4	= 0·5	—
Sugar	20	= 2·5	—
Milk	12	= 1·5	If condensed milk, 1½ momme (0·2 oz.) to be given.
Vinegar ...	2	= 0·25	—
Spices ...	0·3	= 0·05	—
Salt	2	= 0·25	—
Pickles ...	20	= 2·25	—
Fruit... ...	—		To be given with care.
Total ...	568·3	=71	

If the amount of 51 momme (6·37 oz.) of liquid food is subtracted there remain 517·3 (64·65 oz.) when rice is used, 497·3 (62·30 oz.) when bread is used, and 467·3 (58·40 oz.) when biscuit is used.

It is not necessary to give the exact allowance every day but if the food of two weeks is averaged the average daily allowance should be equivalent to the daily prescribed amount.

In 1883, after my proposal to reform the diet system on Nov. 26th, I made a great effort in order that the *Tsukuba* should go over the same route as the *Ryujo*. There was opposition to this from various points and the permission could not be obtained easily but in the end after much discussion all difficulties were overcome, except that of expense. So with the knowledge of the Minister of the Navy I consulted Hakubun Ito, Councillor of the Imperial Household, and Seigi Matsugata, the Minister of Finance, and finally obtained my object by the special allowance of 60,000 yen (about £6000) from the Treasury. Before the sailing of the *Tsukuba* a special committee for investigation was put on board and consisted of the following gentlemen: Captain S. Arichi, Lieutenant Y. Matsumara, Surgeon T. Aoki, and Paymaster N. Kataoka. The food-supply was ordered according to the new system. The vessel sailed on Feb. 2nd, 1884, and returned to Shinagawa on Nov. 16th. The result obtained was good and is shown in the next table, comparing it with that of the *Ryujo*.

When the good report ("no beri-beri") of the experimental voyage of the *Tsukuba* became known the principal men in the navy for the first time began to support me in my fixed purpose. They said that they had always opposed me in their hearts and only obeyed the new regulations because they were ordered by the Minister, but they would give in now after such powerful practical proofs. In January, 1885, on looking through the reports of 1884 I was greatly satisfied with the results as shown in Table I. The number of general diseases was nearly halved and that of beri-beri was considerably decreased without a death.

On Feb. 13th, 1885, I made a new proposal for using barley and rice in equal proportion instead of rice alone and of having this adopted from March 1st, as the season of beri-beri was approaching, under the following rules—that is, from March 1st to 15th, only once at breakfast; from March 16th to 31st, twice a day, morning and evening; after April 1st, at every meal. I did this for the following reason. Although the number of cases of beri-beri in the navy decreased considerably (almost half the number in the year before) and the deaths had become almost unprecedentedly few since the formation of our navy owing to the new food regulations of February, 1884, yet the disease had not yet disappeared completely and we were obliged to make further efforts to exterminate it. Then I thought of the plan of using barley instead of bread alone, as the men could eat the former better than the bread. From this I expected better results. The Minister of the Navy ordered the addition of the word "barley" amongst the articles of food and its practical application on Dec. 21st throughout the whole navy. As I saw uneasiness arising among the naval officers and men owing to this change and as I wanted to report the full results of the investigation on the voyage of the *Ryujo* and to tell the purpose of this new change I, with the approval of the Minister of the Navy, delivered the following address at the Naval Club on Feb. 25th:—

All of the gentlemen here present will remember the Orders G, No. 2743 (2), issued on the 29th November, 1883, and C, No. 7, issued in January, 1884, by which regulations regarding food were made for the first time. By last year's experience we have found that most of the men dislike meat as well as bread, and we do not know what we shall do next. But if we leave the matter to their own choice we shall certainly have a great many cases of beri-beri as has hitherto been the case, especially as more than 1000 new men have been enlisted this year. Now, there is nothing better than barley food for preventing beri-beri. As, however, barley is coarse in appearance we are afraid that some of the men who do not understand the object of the improvement in the scale of diet will feel dissatisfied. We consequently wish to speak about the preventive measures to be adopted against beri-beri and to take this opportunity of reporting the result of the examination into beri-beri on board the *Ryujo*. That beri-beri can be prevented by an improvement in the scale of diet has been deduced from scientific reasoning and has been proved by experience in our navy, and for a long time we were planning such preventive measures. Fortunately, G. No. 2743 (2) was issued on the 29th November, 1883, directing that nutritious food should be given as far as possible, to which followed the regulations in regard to the supply of food, which were issued with C. No. 7 in January, 1884. According to those regulations the medical bureau drew up tables showing the proper amount of food for healthy men and invalids and distributed these to vessels, barracks, and hospitals, thus trying to insure the health of the men. As we had expected, however, these suggestions often could not be carried out, especially in the case of newly enlisted men, who not only dislike bread but cannot take a proper amount of meat. If things are left in such a condition there is no doubt, from recent experience, that we shall again have a great many cases of beri-beri this year in spite of the favourable result shown in the decrease of cases of beri-beri which was obtained in the year which followed the improvement in the scale of diet. This is why we decided to give the barley food. We believe that the majority of the men in our navy have been used to take barley food from their childhood, so that in reality they can eat it, although they show their dissatisfaction at it after becoming accustomed to the rice given to them since they entered the navy. It is accordingly considered that the best preventive measure at present against beri-beri will be to give barley, which it was directed should be given to the navy in general from the month of March by the order of the 21st inst.

[2] A kind of sauce made of beans, barley, and salt.

If this order is carried out strictly we are sure to find no cases of beri-beri in our navy. We consequently ask you, gentlemen, that you will kindly help us in the work of prevention, for the good of our country, according to the order just given.

On March 19th, 1885, I obtained the honour of an interview with His Majesty the Emperor and presented the reports of the following items: 1. The results of beri-beri investigation on board the *Ryujo*. 2. The decrease of beri-beri from the gradual improvement of diet since Jan. 15th, 1884. 3. A great probability of exterminating the disease from the navy in a few years.

On March 28th, 1885, I for the second time spoke on the preventive measures of beri-beri before the meeting of the Hygienic Society of Japan, the chief items of which were: 1. The report of the investigation committee placed on board the training-ship *Ryujo* during its voyage in 1883. 2. The report of the experimental voyage of the *Tsukuba* in 1884. 3. The results obtained through the examination of food supplied in 1883—that is, the very small quantity of nitrogenous food as against the large amount of carbohydrates, the proportion being 1 of nitrogen to 28 of carbon. In addition, the occurrence of numerous beri-beri and general diseases during that year. 4. The good results obtained by improved diet since 1884 and the difference brought about in the proportion of nitrogen and carbon by various changes in the proportion of diet.

On August 24th, 1885, I made a proposal to change bread and biscuit for equally proportioned barley and rice which had been supplied since March of that year, because I recognised its necessity owing to the great difficulties in cooking during rough weather, even in time of peace. In November of that year my proposal was taken up and its application was at once ordered. Finally, besides arranging and investigating as described I had thought of experiments on dogs and in September, 1884, commenced my experiments. The results obtained were as follows:—

[Baron Takaki here gave a very detailed account of experiments made on the feeding of 12 dogs on various substances, his object being to show the unsuitability of rice as a staple article of diet and the superiority of barley to rice. The account included such minutiæ as the composition of the forenoon and afternoon rations, the date of birth of some of the dogs, and a full report of the post-mortem appearances presented by those which died. The principal points of interest were as follows. In the first experiment, which was commenced in the beginning of September, 1884, six dogs were used. The first of these dogs weighed 14 pounds (1800 momme) and had a daily allowance of 5 ounces of rice, 1½ ounces of vegetable, ½ ounce of miso, and ½ ounce of soy. In a short time it gained 12 ounces in weight, but it afterwards gradually lost weight and became thin and weak; its hair fell out very much, but the animal did not show any symptom of disease. It died suddenly at the end of 307 days and was then found to have lost 3 pounds of its original weight; the necropsy showed the presence of general anæmia. The second dog weighed 15½ pounds (2000 momme) and had a daily allowance of 10 ounces of rice, 2½ ounces of vegetable, ½ ounce of miso, and ½ ounce of soy. It increased in weight for a short time but soon afterwards began to waste gradually and after about eight months there was paralysis of the legs with complete inability to stand. It died at the end of 269 days; the necropsy showed the presence of general anæmia. The third dog weighed 28 pounds (3600 momme) and had a daily allowance of 10 ounces of rice, 2½ ounces of vegetable, ½ ounce of miso, and ½ ounce of soy. Its weight at first increased but afterwards gradually decreased, and after about 11 months there was paralysis of the legs with inability to walk. It died at the end of 337 days; the necropsy showed that the brain, spinal cord, kidneys, and right lung were full of blood, whereas there was a deficiency of blood in the rest of the body. The fourth dog weighed 12½ pounds (1600 momme) and had a daily allowance of 25 ounces of rice, 1½ ounces of vegetables, 1¾ ounces of fresh beef, ½ ounce of dry bonito, a small piece of tofu (legumen), and $\frac{1}{10}$ ounce of soy. It lost weight at first but afterwards gradually regained it. As compared with the original weight there was a gain of 22½ ounces and after the lapse of 307 days the animal was still healthy and strong. The fifth dog weighed 17½ pounds (2200 momme) and had a daily allowance of 5 ounces of rice, 3¾ ounces of fresh beef, 2½ ounces of vegetable, ½ ounce of miso, ½ ounce of soy, and a small piece of tofu (legumen). It at first increased in weight and then gradually decreased, but as compared with the original weight there was a gain and after the lapse of 261 days the animal was healthy and strong. The sixth dog weighed 56½ pounds (7200 momme) and had a daily allowance of 7½ ounces of rice, 5¾ ounces of fresh beef, 2 ounces of vegetable, $\frac{1}{10}$ ounce of soy, and a small piece of tofu (legumen). In the course of the experiment the dog's weight decreased in comparison with what it was at first, but after the lapse of 337 days the animal was still healthy and strong.

The weight of the first three dogs (which may be called the first A group) as compared with the original weight showed an increase of 23½ pounds (2995 momme), but all the dogs died. The total increase in weight of the other three dogs (which may be called the first B group) was only 11 pounds (1430 momme), as compared with their original weight, but all of them were alive and healthy at the conclusion of the experiment; it is therefore not always reasonable to take the increase of body weight as a positive proof of health.

The second experiment, in which six dogs were also used, was commenced on Sept. 1st, 1885, and completed on Nov. 30th, 1886. The principal articles of food given to the first three of these dogs were rice and sweet potatoes, while those given to the other three consisted of boiled barley, beans (soja hispidia), and sweet potatoes. The first of these dogs weighed 19½ pounds (2500 momme) and had a daily allowance of 7½ ounces of rice, 1¾ ounces of sweet potatoes, ⅜ ounce of dried bonito, ⅜ ounce of soy, and ⅜ ounce of miso. It at first decreased in weight but afterwards increased; between the sixth and twelfth month of the experiment it suffered from spasms; it died at the end of 383 days; the principal post-mortem appearances were congestion and hæmorrhage in the peritoneum. The second dog weighed 14½ pounds (1860 momme) and had a daily allowance of 5 ounces of rice, 1¾ ounces of sweet potatoes, ⅜ ounce of died bonito, ⅜ of soy, and ¾ ounce of miso. Its weight fluctuated a good deal but at the commencement of the ninth month of the experiment there was an increase of nearly one-eighth of the original weight. From the commencement of the eleventh month the animal became emaciated and extremely weak but there was no paralysis; it died at the end of 322 days; at the necropsy hæmorrhage in the mesentery and mucous membrane of the small intestine was found and there was fluid in both sides of the thorax. The third dog weighed 11¾ pounds (1500 momme) and had a daily allowance of 5 ounces of rice, 1¾ ounces of sweet potatoes, ⅜ ounce of dried bonito, ⅜ ounce of soy, and ¾ ounce of miso. An increase of 2½ ounces (20 momme) in its weight was maintained up to the end of the experiment which lasted for 421 days; during the whole of this time it showed little change in any respect. The original weight of the fourth dog is not stated; it had a daily allowance of 5 ounces of barley, 2½ ounces of beans, 1¾ ounces of sweet potatoes, ⅜ ounce of dried bonito, ¾ ounce of soy, and ¾ ounce of miso. At the beginning of the fourth month of the experiment it had lost over a quarter of its original weight, but its movements were very active and there was afterwards an increase in weight; the experiment lasted for 456 days. The fifth dog weighed 11¾ pounds (1500 momme) and had a daily allowance of 2½ ounces of barley, 2½ ounces of beans, 1¾ ounces of sweet potatoes, ⅜ ounce of dried bonito, ⅜ ounce of soy, and ¾ ounce of miso. The experiment was continued for 456 days, during the whole of which the animal showed no remarkable change in its weight and nothing unusual happened. The sixth dog weighed 31¾ pounds (4080 momme) and had a daily allowance of 7½ ounces of barley, 2½ ounces of beans, 2½ ounces of sweet potatoes, ⅜ ounce of dried bonito, ⅜ ounce of soy, and ¾ ounce of miso.

Of the first three dogs (which may be called the second A group) two died and the one which survived did not increase in weight more than 20 momme, whereas with the other three (which may be called the second B group) each increased in weight during the last month and at the end of the experiment the increase was from 120 to 150 momme. Baron Takaki then continued as follows:—]

The result of the two experiments mentioned above was that those six dogs to which rice was given as the principal food, in spite of an increase in weight all but one died before the expiration of the experiment. The increase of weight of six dogs to which barley, beef, and beans were given as their principal food was not so conspicuous as in that of A group, but every one of them was healthy and very active both mentally and bodily till the end of the

experiment. Therefore, although these experiments seem to be very crude yet the results certainly prove that the variety of food consumed and its combination have direct influence upon the health of animal life. It is not quite proper to conclude that the causes which affect the health and development of man will produce in some ways the same results as in dogs, but I have no doubt that the health of man is also greatly influenced by the variety and combination of food consumed.

By the beginning of 1890 the reformed diet was crowned with a complete success, and not only was the beri-beri wholly exterminated but also the general diseases became greatly decreased. In the same year the Imperial Ordinance for the reformed diet was issued and thus my original object was fulfilled.

All through these years of hardships I tried to explain my views to others by comparing the food to gunpowder. I said that the former is the primary force of the human body as is the powder in the case of the gun, so it is just as important to select the food suitable for sailors as the powder for guns and rifles.

In former time the food was supplied according to the monetary system without any regard for quality or quantity. Therefore, when the price of food articles was high the men could not get sufficient nutrition for the maintenance of health, although they were able to get more when it was low. As a consequence, the distribution of food was unequal at times and although the sailors could stand any hardship at one time yet they could not at other times owing to the want of food. Such a state of things is a serious danger for the country in time of need. The gunpowder is supplied in definite quantity and of the best quality without considering the amount of expense. This is what I wished to have with regard to the supply of food. By doing so we can preserve an equal supply of suitable food at all times and also keep the officers and men in good health so that they can bear hardships both in peace and war. In 1890, as the success of the reformed diet became positive, the particulars concerning the preventive measures taken for beri-beri were compiled into a book and presented to the Minister of the Navy.

As the result of the reformed diet and the improvement of the naval hygiene, during six years from 1884 to 1889 the amount of expense saved totalled 1,232,416½ yen (about £123,242). On Oct. 16th, 1890, I for the third time had the honour of an audience with His Majesty the Emperor and presented the following facts: 1. As I foretold on the occasion of the presentation to His Majesty in 1885 beri-beri had now been completely exterminated from the Imperial Navy. 2. The present condition of the health of the Imperial Navy and the economic influence of the improved diet. 3. The fear of the inability of the naval officers and men to endure hardships in time of need had now gone. 4. The general tendency of beri-beri to increase among students and others without any regard to occupation. 5. The appearance of beri-beri all over the country and its tendency to increase seemed to have its origin in the reformed land-tax of the sixth year of Meiji (1873). Since that time the habit of eating rice as the chief food settled upon the remote districts; and besides, owing to the general tendency throughout the country to raise mulberry leaves, the production of rice and other cereals markedly decreased. In consequence, the vegetable albuminates contained in food necessary for bodily nutrition decreased, while, on the contrary, the amount of carbohydrates comparatively increased, thus causing the increase of the disease.

On thinking over my past experiences I cannot hesitate to declare that the present improved condition of the Imperial Japanese naval hygiene was due to having had an able man at the head of the navy and also to the education of medical officers. Because if we had not such a man at the head my suggestions would not have been taken up or if the medical officers were not thoroughly educated they could not have succeeded in the task of the preventive measures. The success of the new diet system and the attaining of my long-cherished desire were accomplished owing to the late Count Jungi Kawamura who was the Minister of the Navy when I was made the Chief Director of the Medical Bureau. When I first took up official duty as the Director of the Medical Bureau I told the Count that if he would give me full power to execute whatever I deemed necessary in order to keep up the health of the naval officers and men so as to make them fit for any duty I would endeavour not to interfere with his plans in regard to education, training, duties of officers and men. These plans, it may be mentioned, seemed to be throwing too much work on the men and medical officers were inclined to object. He then answered, "All right." So that whenever I wanted to try any new plan he always supported me in carrying it out as long as circumstances allowed.

In order to maintain the health and efficiency of the men I firmly believe it to be of paramount importance to have the following facts in constant observation. A careful selection of men at the time of enlistment and the maintenance of their health are absolutely essential for the object of having an army and navy. To fulfil these objects there must be an organisation in which the medical officers and nurses must be properly educated so as to fit them for their duties and the officers and men of other branches must be taught elementary physiology and hygiene. Accordingly, in Japan elementary physiology and hygiene are taught to cadets and officers, in addition to the subjects special to themselves, both at the Naval College and the Academy.

TABLE XII.—*Casualties in Action with their Results in the Japanese and Russian War ending on Dec. 5th, 1905.*

Classification.	Total number of casualties.	Killed.	Died from wounds.	Wounded.	Returned to duty.	Invalided.	Still in hospital.	Out.
Officers	307	159	14	134	132	0	1	1
Gun-room officers	93	51	4	38	37	1	0	0
Petty officers ...	891	511	27	353	319	27	7	0
Men	2333	1139	68	1126	1010	74	42	0
Miscellaneous ...	65	31	4	29	28	0	1	0
Total	3689	1891	117	1680	1526	102	51	1

Percentage of killed and died from wounds, 54; killed, 51 per cent.; returned to duty, 93·8 per cent.; invalided, 6 per cent.; still in hospital, 3 per cent.

"A." Casualties in the Engagement outside of Port Arthur, Feb. 9th, 1904.

Classification.	Total number of casualties.	Killed.	Died from wounds.	Wounded.	Returned to duty.	Invalided.	Still in hospital.	Out.
Officers	16	2	1	13	13	0	0	—
Gun-room officers	2	0	1	1	1	0	0	—
Petty officers ...	11	1	1	9	9	0	0	—
Men	42	0	3	39	35	3	1	—
Miscellaneous ...	1	0	0	1	1	0	0	—
Total	72	3	6	63	59	3	1	—

"B." Casualties in the Engagement of the Yellow Sea on August 10th, 1904."

Classification.	Total number of casualties.	Killed.	Died from wounds.	Wounded.	Returned to duty.	Invalided.	Still in hospital.	Out.
Officers	28	12	1	15	15	0	—	—
Gun-room officers	6	3	0	3	3	0	—	—
Petty officers ...	64	29	3	32	28	4	—	—
Men	127	21	2	98	80	18	—	—
Miscellaneous ...	7	0	0	7	7	0	—	—
Total	232	65	6	155	133	22	—	—

"C." Casualties in the Engagement at the South-Eastern Coast of Korea.

Classification.	Total number of casualties.	Killed.	Died from wounds.	Wounded.	Returned to duty.	Invalided.	Still in hospital.	Out.
Officers	9	1	1	7	7	0	0	—
Gun-room officers	2	0	0	2	2	0	0	—
Petty officers ...	35	13	3	19	18	1	0	—
Men	83	22	6	55	49	4	2	—
Miscellaneous ...	4	0	0	4	4	0	0	—
Total	133	36	10	87	80	5	2	—

"D." Casualties among the Naval Men at the Siege of Port Arthur.

Classification.	Total number of casualties.	Killed.	Died from wounds.	Wounded.	Returned to duty.	Invalided.	Still in hospital.	Out.
Officers	6	1	2	3	3	0	0	—
Gun-room officers	8	3	1	4	4	0	0	—
Petty officers ...	61	6	4	51	44	7	0	—
Men	268	20	20	228	205	22	1	—
Miscellaneous ...	0	0	0	0	0	0	0	—
Total	343	30	27	286	256	29	1	—

"E." Casualties in the Battle of the Sea of Japan on May 27th, 1905.

Classification.	Total number of casualties.	Killed.	Died from wounds.	Wounded.	Returned to duty.	Invalided.	Still in hospital.	Out.
Officers	49	5	2	42	40	0	1	1
Gun-room officers	14	2	0	12	12	0	0	0
Petty officers ...	158	34	3	121	112	2	8	0
Men	489	45	22	402	358	8	36	0
Miscellaneous ...	10	2	2	6	5	0	1	0
Total	700	88	29	583	527	10	46	1

"F." Casualties during the Period between Feb 9th, 1904, and August 13th, 1905, excluding the Big Battles.

Classification.	Total number of casualties.	Killed.	Died from wounds.	Wounded.	Returned to duty.	Invalided.	Still in hospital.	Out.
Officers	199	138	7	54	54	0	0	—
Gun-room officers	61	43	2	16	15	1	0	—
Petty officers ...	562	428	13	121	108	13	0	—
Men	1350	1031	15	304	283	19	2	—
Miscellaneous ...	43	30	2	11	11	0	0	—
Total	2215	1670	39	506	471	33	2	—

Remarks.—The percentage of "killed" in the navy was, as is seen in the table above, 51 per cent, while that in the army was 28 per cent., thus showing that the "killed" rate is much larger in the navy. This is no doubt due to the more powerful weapons used in the navy which cause great damage from explosive shells. All the wounded cases have been aseptically treated under strict observation and, of course, when the necessity arose, cases were treated antiseptically according to the nature of each case. Surgical operations were generally avoided as much as possible because it was found that the conservative surgery gave the best result.

In our army and navy before the battle commences we are in the habit of wearing new clothes after cleaning the body thoroughly as a matter of self-respect and this is also useful as a preventive method against the introduction of any infection from the outside when a man is injured or wounded.

The Goulstonian Lectures

ON

AUTO-INTOXICATION: ITS RELATION TO CERTAIN DISTURBANCES OF BLOOD PRESSURE.

Delivered before the Royal College of Physicians of London on March 13th, 15th, and 20th, 1906,

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LECTURE III.[1]

Delivered on March 20th.

MR. PRESIDENT AND GENTLEMEN,—In the last lecture reference was made to the various disintegration products which are formed when proteids and nucleo-proteids break down. Attention was also called to the work done by Salkowski who has pointed out so admirably the importance of autolysis. Salkowski found that the autolysed liver contained not only substances which might be derived from the body proteid of the cell but also other substances which indicated dissociation of the nucleo-proteid of the nucleus. In his control experiments nucleo-proteid was found, but this was quite absent in the liver preparation exposed to autolysis in a thermostat. This was further confirmed by the observation that the phosphoric acid which had gone into solution was increased in amount, more so than could be explained by the decomposition of jecorin and lecithin which are known constituents of the liver. With such evidence before him Salkowski years ago insisted on the existence of intracellular enzymes. The doctrine that cellular activity is intimately associated with the maintenance of the natural appearance and condition of the cell has led to error in the past and it is now quite freely accepted that the enzymes present in cells are capable of being extracted and will exert their influence even when dislocated from the cell body. To study the influence of such bodies we must have knowledge of the substance on which they act as well as on the materials which they produce by such action. That these causes—namely, the intracellular ferments—are very labile and refuse to yield the knowledge of their ultimate composition is a great reason for the difficulties met with in the study of such agents and of their importance. The intracellular ferments in common with other ferments are destroyed by a temperature of 100° C. Precipitation of the solution containing them causes them to be carried down in the precipitate. They are of a colloidal nature and it is therefore not strictly true that they are soluble in water. Extraction with water or salt solutions of organs which have been ground up with sand is a common method of obtaining intracellular ferments. Buchner has, however, introduced hydraulic pressure as a substitute for extraction by this method and has obtained zymase from yeast which had hitherto failed to yield this ferment by other methods of extraction. The majority of intracellular

[1] Lectures I. and II. were published in THE LANCET of May 12th (p. 1295) and 19th (p. 1375), 1906, respectively.

ferments only act in alkaline or neutral media; an exception is found in some of the intracellular ferments of the organs of the body, that is, of the non-digestive ferments, as some appear to act best in an acid medium—e.g., one of the ferments described by Hedin and Rowland,[2] in the spleen. As a rule and within limits activity increases with a rise of temperature. The products of activity check further action. The exact mechanism of the action of ferments is not at present known but Ostwald has advanced the theory that all ferments act as agencies which hasten the process of catalysis or chemical change; hence he speaks of them as catalysators. They can exist after the death of the cells by which, or in which, they were produced and can be isolated to a certain extent. The particular intracellular ferments which are of interest in the present lectures are those which are hydrolytic in character. For it is hydrolytic ferments which are capable of producing those disintegration products the effects of which upon blood pressure have been closely studied by workers in this country and abroad. The cell ferments capable of exerting hydrolytic cleavage are well represented by the proteolytic ferments present in the cell of the gastro-intestinal mucosa. Trypsin and pepsin have been known for a long time. Erepsin has been found in the intestinal cells and has been shown to be capable of dissociating proteid bodies such as albumoses and peptones into simpler products. It is quite unable to act upon the natural proteids except casein. Vernon[3] has been able to show that erepsin is not confined to the intestinal mucosa but occurs very widely throughout the body. The kidney, for example, contains even more erepsin than the intestinal mucosa. Erepsin is also present in the pancreas, spleen, and liver, whilst the heart muscle, voluntary muscle, and brain contain but little. Arginase may also be grouped amongst the intestinal ferments, but we know that it occurs in the liver and possibly is universal, for the remarkable observation has been made that in the autolysis of various organs arginine hitherto has not been able to be detected. Owing to the work of Salkowski and his pupils we have learnt that proteolytic changes can occur in the cells of the organs of the body. But a point of some importance is this—that albumoses and peptones are so quickly disintegrated when once formed that they do not appear in the autolysed fluids or only in slight traces in the case of albumoses. Not only is autolysis possible in the liver and muscle but it has been demonstrated in the spleen, lymphatic glands, and kidney by Hedin and Rowland[4] and even in the lungs and in the gastric wall by other observers, quite independently of the ordinary digestive ferments, and Dakin,[5] working on the intracellular ferments discovered by Hedin and Rowland in the kidney, has been able to show that but for the fact that the ferment acts in an acid medium end-products are formed which suggest a tryptic action. We know, however, that it cannot be a tryptic action because the latter only takes place in an alkaline medium. Proteolytic ferments have been demonstrated in the pancreas, mammary gland, even in the placenta, and in cancer tissues. Certain outside agencies are capable of influencing such ferments, because Jacoby has shown that in phosphorus poisoning the autolytic power of the liver is increased. Müller and Simon have shown that the liquefaction of the alveolar exudate in pneumonia is even due to autolytic ferments derived from the leucocytes, and Conradi and Jacoby have shown that in the autolysis of various organs anti-thrombin, a substance capable of preventing clotting, is formed. Recently Miss J. E. Lane-Claypon and Dr. S. B. Schryver[6] have brought forward observations which show that the autolytic ferments of the liver may be increased by starvation of the animal. In one experiment in which the animal had fasted twice during the week the latent period was absent and the suggestion was made that the autolytic enzyme by a process of starvation had begun to act during life as if an effort were being made to support vital processes by the use of the animal's own proteid. From these observations it is obvious that we have to deal with numerous ferments acting in the various organs of the body and we can accept it as a fact that these ferments are not simply escaped digestive ferments but are ferments peculiar to various organs. It has even been shown that the ferment of one organ is not capable of acting upon the proteid constituents of another organ,[7] which suggests that the different organ ferments are specific.

Modern physiology does not hesitate to accept the action of intracellular ferments as essential in carrying out the chemical changes which are so necessary in the body. We need not therefore hesitate to believe that in certain pathological conditions these ferments continue their action and produce dissolution of organs and lead to the familiar picture of atrophied structures. One of the most common experiences is to find that an organ, the artery to which has become occluded, undergoes atrophy. We are forced to believe that intracellular ferments have been the agents by which such disappearance of tissue has been brought about. There can be little doubt that the changes noticed in aseptic autolysis are, broadly speaking, identical with those seen when an organ is within the body deprived of its blood-supply or is so damaged by external toxic agents that it cannot renew or maintain its cellular characters. Jacoby, for example, found that the ligature of a whole healthy liver or parts of it *in situ* was followed by the development within the liver tissue of leucine and tyrosine which are certain signs of proteolysis. If an organ is deprived of its blood-supply in a living animal autolysis will occur. The products of such autolysis will be absorbed into the system; if not simplified rapidly or excreted it is reasonable to suspect that they will exert disturbances in the rest of the economy.

In order to test whether autolysis of organs led to different effects on the blood pressure when extracts obtained from them after autolysis were used the kidneys and liver were removed from animals and autolysed. These two organs were chosen because from experiments already shown the effects of their extracts when injected into the circulation were of quite opposite character, the kidney extract producing a rise of blood pressure and the liver in almost all cases a fall. Both these organs are highly cellular, so that both may be considered to yield proteid and nucleo-proteid derivatives when exposed to the action of their own particular intracellular proteolytic ferments. Both have external secretions which to a certain extent are present in the organ when removed. We know that the urine itself is capable of causing a fall of blood pressure and yet in spite of this a rise occurs when fresh kidney substance is injected into the circulation. It is a little unfortunate for this particular choice of organs that the bile present in the liver by reason of its bile salts sodium taurocholate, sodium glycocholate, and even its potassium salts is capable of causing a fall of pressure[8]; the effect produced by the small amount of bile present is, however, probably negligible. In order to show the difference between the depressor effects of extracts of fresh liver as compared with extracts of autolysed liver substance this organ was removed immediately from a series of animals and autolysed for varying periods of time—one to seven days—in the presence of chloroform at a temperature of from 8° to 10° C. and at a temperature of 37° C. Bacterial developments had taken place in a few samples but did not appear materially to affect the results; a large majority had remained sterile, containing neither aerobic nor anaerobic organisms. One great feature stands out in prominence when we compare the extract of fresh liver with that of autolysed liver and it is this, that the autolysed liver produced a much greater fall of blood pressure than an equal amount of fresh liver substance. A change had taken place which resulted in the production of a more powerful depressor substance or substances (see Tables I. and II.)

Now, turning to the effect of autolysis upon kidney substance we find the almost immediate pressor effect of fresh kidney extract replaced by an immediate depressor effect of autolysed kidney substance or the immediate depressor effect occasionally met with in fresh extract is made more prolonged. (See Table III.)

It will be remembered that a similar marked and protracted fall was produced by the injection of kidney extracts obtained from post-mortem specimens. It follows then that when autolytic processes occur outside the body and also when they occur within the body there is the possibility that such autolysis will yield substances which are capable of materially altering the normal blood pressure.

[2] Hedin and Rowland: Zeitschrift für Physiologische Chemie, 1902, Band xxxii., SS. 341 and 531; also Hedin, Journal of Physiology, 1904, vol. xxx., p. 155.
[3] Vernon: Journal of Physiology, 1904, vol. xxii., p. 33.
[4] Hedin and Rowland: Loc. cit.
[5] Dakin: Journal of Physiology, 1904, vol. xxx., p. 84.
[6] Janet E. Lane-Claypon and S. B. Schryver: Journal of Physiology, 1904, vol. xxxi., p. 169.
[7] Jacoby: Hofmeister's Beiträge zur Chemischen Physiologie, 1903, Band iii., S. 446.
[8] Edmunds: Brit. Med. Jour., vol. i., 1905, p. 57.

TABLE I.—*Showing Fall of Blood Pressure following Intravenous Injection of Fresh Liver Substance.*

Number of experiment.	Quantity of saline extract (1 in 3) of fresh liver, prepared by grinding up with sand, centrifugalising, and filtering.	Maximum highest pressure before injection.	Fall in maximum pressure subsequent to injection.
22 (1)	6 c.c.	144 mm.	16 mm.
(2)	6 ,,	180 ,,	14 ,,
25 (1)	6 ,,	142 ,,	9 ,,
(2)	6 ,,	166 ,,	7 ,,
(3)	6 ,,	176 ,,	6 ,,
29 (2)	6 ,,	162 ,,	22 ,,
31	6 ,,	132 ,,	16 ,,
32 (1)	6 ,,	184 ,,	8 ,,
(2)	6 ,,	162 ,,	6 ,,

TABLE II.—*Showing Increased Fall of Blood Pressure following Intravenous Injection of Autolysed Liver Substance.*

Number of experiment.	Quantity of filtrate used and obtained by autolysis of one part of liver added to three parts of saline.	Maximum highest pressure before injection.	Fall in maximum pressure subsequent to injection.	Duration of autolysis.
28	6 c.c.	106 mm.	16 mm.	24 hours.
	6 ,,	128 ,,	32 ,,	72 ,,
	6 ,,	118 ,,	28 ,,	120 ,,
	6 ,,	112 ,,	30 ,,	144 ,,
	6 ,,	120 ,,	40 ,,	168 ,,
	6 ,,	110 ,,	26 ,,	192 ,,

TABLE III.—*Showing Fall of Blood Pressure following Intravenous Injection of Autolysed Kidney Substance.*

Number of experiment.	Quantity of filtrate used and obtained by autolysis of one part of kidney added to three parts of saline.	Maximum highest pressure before injection.	Fall in maximum pressure subsequent to injection.	Duration of autolysis.
26	6 c.c.	162 mm.	42 mm.	24 hours.
	6 ,,	146 ,,	31 ,,	72 ,,
	6 ,,	156 ,,	34 ,,	120 ,,
	6 ,,	162 ,,	39 ,,	144 ,,
	6 ,,	158 ,,	36 ,,	168 ,,
	6 ,,	156 ,,	45 ,,	192 ,,

We may thus find an explanation for the 14 of the 68 clinical cases in which the blood pressure was lower than normal. Some of these cases were the subjects of ante-mortem bacterial infection and possibly bacterial toxins had led to disintegration of organ cells and hence to depressor substances. But this was not the case, so far as can be told, in all instances, so that it is possible that some of these cases showed low blood pressure from the escape into the circulation of material produced by intracellular ferments. No doubt if such substances are small in amount the body may be able to manufacture substances which are capable of counteracting their influence, or if the excretory organs are acting normally such depressor substances may be readily removed from the organism. Moreover, it is possible to see in this behaviour of autolysed kidney an explanation of the fall of pressure to subnormal which constitutes a feature in some of the cases of fatal Bright's disease. So long as renal cortex is being discharged into the circulation in a comparatively fresh condition the protoplasm not being altered, or only slightly so, pressure is raised, but if the changes in the kidney are such as to have led to a disintegration of the renal cells, for this is quite possible on the hypothesis of a more prolonged local occlusion of blood-vessels by vascular disease, then the various products of this autolysis may produce in the individual the same effects of lowered blood pressure as are met with experimentally in the use of autolytic products developed outside the body. It may now be asked, what evidence is there of the existence of especially separated substances capable of lowering blood pressure and derived from the disintegration of proteid and nucleo-proteid? The earliest observation on this subject was made by Schmidt-Mülheim[9] and by Fano,[10] who, working with impure peptone—that is, peptones which contained a considerable amount of proteoses—found a very marked fall of blood pressure when these substances were introduced into the circulation. It was subsequently shown that this depressor effect was due to the proteoses and not to peptones. Thompson[11] has made numerous experiments on the vascular system which established this effect of proteoses. Witte's "peptone," which consists so largely of proteoses derived by the digestion of fibrin by pepsin, causes a fall of blood pressure. This is produced by a direct or peripheral effect on the blood-vessels, causing them to dilate, and is not confined to the splanchnic area but is shared by other vascular districts. It was found that proto-proteose is the most potent, then hetero-proteose, and then deutero-proteose; deeper disintegration products exerted no effect on the blood pressure. We thus learn from Thompson's work that the more cleavage has proceeded the less effect is noticed upon blood pressure, the various amino-acids and hexone bases failing to cause any fall of pressure. Thompson[12] found that though protamines, which constitute the simplest form of proteid, have a marked depressor effect, their cleavage products also have practically none. Thompson considers that the toxic effects depend on the "constitution of the total proteid molecule." In other words, it seems that unaltered or slightly altered proteids may exert depressor effects on the circulation but their derivatives are inactive. His researches are confirmed by Chittenden, Mendel, and Henderson.[13]

Lilienfeld has pointed out that another group of bodies known as histones are also capable of causing a depressor effect and Thompson believes that some of the depressor effects obtained by other workers when they have injected extracts of various organs are due to the presence of such histones, an opinion which is endorsed by Pugliesi.[14] We now meet with an observation which appears to contradict these opinions, because Nolf[15] found that if the pancreas is autolysed until the biuret reaction can no longer be established a product may be obtained which causes a fall of blood pressure. The absence of the biuret reaction shows that proteids must have undergone primary dissociation and it would appear, therefore, that dissociation products, like the native proteid from which they are derived, exert depressor effects. This difficulty has been set at rest by observations of Wolf[16] working in Dr. Halliburton's laboratory. He has experimented with representatives of every class of dissociation products derived from proteids and nucleo-proteids and has failed, with one exception, to obtain any depressor effect. His one exception, glucothionic acid, gave a rise and not a fall of blood pressure. Wolf suggests that Nolf's effects were possibly due to decomposition products of lecithine, for it is known that pancreatic autolysis is able to effect the cleavage of this body and that very likely the fall of blood pressure was due to choline, one of the cleavage products of lecithine. Dr. Halliburton was able to add to Wolf's communication observations on Fischer's polypeptides and found that they also had no depressor effect. Walker Hall,[17] on injecting hypoxanthine and guanine into rabbits also failed to find any rise of blood pressure and states that Croftan's observations showing a rise are erroneous and due to a misapprehension as to the normal blood pressure of the rabbit. Further observations have been made upon the possible effects on the blood pressure of various nucleinic acids and Bang[18] has shown that nucleinic acid derived from

[9] Schmidt-Mülheim: Archiv für Physiologie, 1880, Physiol. Abt., S. 33.
[10] Fano: Ibid., 1881, S. 277.
[11] Thompson: Journal of Physiology, 1896, vol. xx., p. 455; 1899, vol. xxiv., pp. 874, 396; 1899, vol. xxv., p. 3.
[12] Thompson: Zeitschrift für Physiologische Chemie, 1900, Band xxix., S. 1.
[13] Chittenden, Mendel, and Henderson: American Journal of Physiology, 1899, vol. ii., p. 142.
[14] Pugliesi: Archives de Biologie, 1905, tome xliii., fasc. i., p. 55.
[15] Nolf: Bulletin de l'Académie Royale de Médecine de Belgique, 1904, tome ii., p. 153.
[16] Wolf: Journal of Physiology, 1905, vol. xxxii., p. 171.
[17] Walker Hall: Virchow's Archiv, 1903, Band clxxiv., Sup., S. 359, and Purin Bodies (second edition), 1903.
[18] Bang: Zeitschrift für Physiologische Chemie, 1900, Band xxxi., S. 410; 1901, Band xxxii., S. 201.

the pancreas produces a fall of pressure much like that produced by proteoses. A similar effect was produced by the nucleo-proteid from which this nucleinic acid was derived. It would appear that nucleinic acid derived from vegetable sources behaves in a similar way.[19]

I am unable to tell you of any observations which prove that histones or nucleinic acids can reach the circulation in disease, but of the existence of proteoses in the body in pathological conditions there is no doubt, though there is no proof of their existence in physiological conditions except in the alimentary canal. Proteoses are known to exist in the body when pus formation has taken place and we know from the work of Simon[20] that when pneumonia is resolving autolytic ferments derived from leucocytes are the active agents producing such liquefaction. Proteoses are formed in this case but it is true that they are only the secondary ones which, as shown by Thompson, are very little active, if at all, in producing a fall of blood pressure. It is reasonable, however, to suppose that the primary proteoses are also formed during some stage of the autolysis of the pneumonic exudate and on being absorbed into the system cause a fall of blood pressure and thus we can understand why a fall of blood pressure is such a well-marked feature during the course of pneumonia. It is known, however, that in some cases of granular kidney proteoses occur in the urine in large amounts, so much so that the urine has a milky appearance, and it is a well-known fact that in cases of uræmia not only do proteids occur in the urine but proteoses also. The origin of such proteids has been ascribed to various causes, such as the entrance of digestive proteoses into the system or to the effect of pepsin which is excreted in the urine upon albumin if present. The question may well be raised whether the origin of such proteoses may not depend upon the action of the intracellular ferments of the renal cells acting upon the renal protoplasm. Some may be reabsorbed into the system and so be responsible for the fall of blood pressure met with in certain stages of uræmia. The statement made by Pick and Spiro[21] that proteoses are not the cause of the fall of blood pressure following the injection of preparations containing them has been disproved by Underhill.[22]

Considerable attention has been paid in recent years to the study of the effects of choline on the blood pressure and on its relation to various pathological conditions which are associated possibly with disintegration of nervous tissue. Dr. Halliburton[23] and Dr. Mott have advanced the view that many of the symptoms met with in general paralysis are due to auto-intoxication. Certain amounts of brain substance are disintegrated during the course of the disease and such products of disintegration as choline enter the cerebro-spinal fluid and may be even detected in the blood. These workers agree that although not a very poisonous substance, yet repeated discharges of choline into the circulation may quite possibly affect the heart and be responsible for the feeble circulation met with in the terminal stages of the disease. Clinical examination of the blood pressure in general paralysis shows that there is a fall of blood pressure after convulsive seizures, the fall ultimately giving place to a rise to normal, and these workers conclude that the depression is due to liberation of choline into the system. Donath has even gone further and as a result of experiments in which the choline was injected into the sensori-motor cerebral cortex has produced convulsive seizures. Though neither a proteid nor a nucleo-proteid derivative, a reference to choline will not be considered out of place in this connexion, because substances such as lecithine are present in all cellular organs and on disintegration may yield this same body, thus providing us with another example of a substance which is capable after autolysis of various organs of producing a depressor effect. To sum up, we may say that several derivatives of organ tissues are capable when once they enter the circulation of producing a fall of blood pressure. They include proteoses, histones, certain nucleinic acids and nucleo-proteids, and choline. All other derivatives of proteid and nucleo-proteid disintegration are, so far as I am able to ascertain, incapable of producing a fall of blood pressure.

Attention may now be directed to the subject of intravascular clotting of blood. "It is a dogma of medicine that cardiac dropsy as a symptom of cardiac failure is due to mechanical obstruction of the circulation. My observations lead me to the conclusion that the danger in cardiac disease is a fibrinogen intoxication and that the symptoms of cardiac disease—for example, dropsy, formation of intravascular clots, hæmorrhagic infarction, fever, &c.—are largely dependent on this condition." This statement of the late Dr. L. C. Wooldridge[24] has laid the foundation of a large amount of inquiry and is based on an earlier contribution in which he showed that a toxic substance can be prepared from the organs of animals by first mincing the organs, then covering with water, allowing to stand for a few hours, and then centrifugalising till no further deposit is given. The liquid was acidified with acetic acid and the washed precipitate dissolved in very dilute sodium bicarbonate solution. One and a half grammes of this substance injected into a dog of moderate size was found to cause instantaneous death, thrombi being formed throughout the whole vascular system. If smaller doses were given the thrombi were more limited and blood drawn from the carotid artery failed to clot at all.

Numerous efforts have been made to try to discover what is the active principle which is capable of producing such remarkable change, for its importance for pathology is of the highest order. Dr. Halliburton and Dr. Brodie[25] have been able to show that various tissue extracts capable of producing such effects do so probably by reason of nucleo-proteids. Conradi[26] has more recently worked upon the problem and has obtained by means of Buchner's hydraulic press fresh juices from various organs without the interaction of acetic acid or any other chemical. He found that the expressed juices of the liver, spleen, kidney, muscle, lung, brain, thymus, lymphatic gland, &c., have a marked hastening influence on blood clotting *in vitro;* very often blood clotting was instantaneous. This effect was not due to nucleo-proteids present in the blood of these organs because the same effect was produced when organs were previously washed free of blood. Such extracts lost their effect when once they began to putrefy. He also found that these expressed juices in large doses caused death through extensive thrombosis, thereby confirming the results first made known by Wooldridge that the tissues can yield substances which are capable of producing intravascular clotting. Conradi also made observations when such fluids had been subjected to autolysis and was able to show that these fluids, so far from producing constant intravascular clotting in many cases, produced rather a delay of clotting. From these observations it is probable that fresh tissues of various sources hasten coagulation and that when once they have undergone autolytic degradation they tend to lose this effect. When we think of the numerous cases met with clinically of thrombosis occurring without any explanation, even of such an explanation as might be afforded by bacterial invasion, the long series of experiments initiated by Wooldridge and carried out by subsequent workers, though contradictory in some cases and though showing different effects dependent upon species of animal used, amount of dose injected, rapidity of injection, &c., offer us the only possible solution of the problem.

The problem is still unanswered how is it possible for comparatively fresh organ tissue to enter the circulation in any circumstances; the mechanism of this passage from organ to circulating fluid is a mystery which has not been solved, and probably this largely accounts for our hesitation in accepting Wooldridge's explanation of widespread intravascular clotting occurring in cardiac or other disease. But if unaltered kidney substance enters the circulation and is capable then of causing a rise of pressure, as is suggested by a consideration of the clinical cases referred to in the first lecture, and it is shown that fresh kidney substance experimentally introduced into the circulation also causes a rise of pressure but causes a fall of pressure when once it has undergone autolysis, I think some fresh support is given to Wooldridge's contentions, for these observations imply that it is possible for colloid constituents of the cells of various organs to enter the circulation before disintegration into simpler soluble bodies. If they reach the

[19] Mendel, Underhill, and White: American Journal of Physiology, 1903, vol. viii., p. 377.
[20] Simon: Deutsches Archiv für Klinische Medicin, 1901, Band lxx., S. 604.
[21] Pick and Spiro: Zeitschrift für Physiologische Chemie, 1900, Band xxxi., S. 235.
[22] Underhill: American Journal of Physiology, 1903, vol. ix., p. 345.
[23] Halliburton: Biochemistry of Muscle and Nerve, 1904.
[24] L. C. Wooldridge: Chemistry of the Blood, edited by Sir Victor Horsley and Professor E. H. Starling, 1893, p. 354.
[25] Halliburton and Brodie: Journal of Physiology, 1894, vol. xvii., p. 135.
[26] Conradi: Hofmeister's Beiträge zur Chemischen Physiologie, 1901, Band i., Heft 34, S. 136.

circulation in sufficient amount they may cause universal intravascular clotting or at least those limited coagulations which we meet with so frequently in human pathology.

I will now draw your attention to quite another subject. Clinical considerations lead us to believe that maintained high blood pressure precedes, and is the cause of, the development of certain arterial diseases. Of recent years experiments have been made which help us to understand this problem a little more clearly. Josué [27] found that by injecting rabbits weighing over two kilogrammes with doses of three drops of 1 in 1000 adrenalin every two days changes occurred in the aorta which recalled the appearance of atheroma. In further contributions Josué referred these effects to changes taking place in the elastic tissue of the middle coat and to deposits of lime salts in the same place and concluded that adrenalin on injection experimentally produced vascular disease identical with the atheromatous changes met with in man. Josué was led to make the experiment because he found that in patients suffering from arterial disease there was a rise of blood pressure and his thoughts turned to the study of the effects of adrenalin, although he felt that the persistent rise of blood pressure met with at the bedside was very different from the transitory pressor effects produced by adrenalin. Josué was able to satisfy himself by experiments after repeated injections of suprarenal preparations that the blood pressure of rabbits rises. He considered the normal blood pressure of rabbits to be about 90 millimetres of mercury and quotes experiments in which rabbits during the course of many months were injected with adrenalin solution. After such prolonged injection he found the blood pressure in one animal was 125 millimetres, in another from 130 to 132, and in another from 109 to 111. It must not, however, be accepted that this is a proof that repeated injections of suprarenal material caused a permanent rise of blood pressure, for the average blood pressure of normal rabbits varies from 100 to 135.[28] Therefore, probably Josué is in error when he concludes from these experiments that we may believe that clinical hypertension is due to an exaggerated action of the suprarenal glands; it was further a mistake to consider that the atheroma produced was dependent upon the pressor effect of the adrenalin. We may consider briefly the remarkable changes produced when adrenalin is injected experimentally on the tunics of the arteries.[29] It is the aorta which is especially affected (see Fig. 1).

Numerous irregular but sharply defined depressions are noticed throughout its length. They do not involve the whole circumference of the vessel and form small shallow aneurysms; the walls of these diverticula may be thin and parchment like; though most marked in the aorta they have even been found in the renal vessels and in the pulmonary artery. On microscopical examination the earliest changes are found in the middle coat of the vessels involved. According to some observers the earliest change is confined to the muscle fibres, by others it is referred to the elastic fibres of the middle coat. But in all cases when the change is advanced the muscle fibres are atrophied and the elastic fibres, though present, are much altered in appearance and are degenerated (Fig. 2). No changes are produced in the external coat or in the vasa vasorum but in many cases the internal coat has undergone a change which is not degenerative in character like the atheromatous patches met with in human pathology but is of a more proliferative character, thereby recalling Thoma's theory of intimal change due to an effort on the part of the internal coat to remedy the weakness produced in the middle coat of the vessel. In many cases, *but not in all*, the degeneration of the middle coat is followed by an abundant deposit of calcareous matter which imparts to the aorta a rigidity unknown in the normal condition. When this calcification has occurred the picture presented is admitted by many observers to be an almost exact counterpart of that calcareous degeneration of the arteries which is so commonly met with in the vessels of the limbs in old patients. (See Fig. 3.)

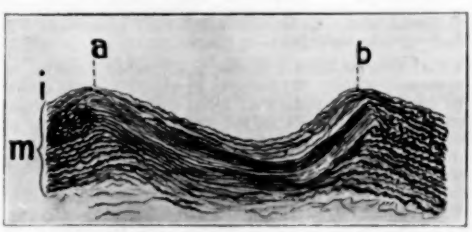
Most observers agree that though this experimental atheroma has so much in common with arterial disease as met with in man there are points of difference, and one of these is the very frequent occurrence of calcification which we know is not a feature of all arterial degeneration met with in human pathology. This difficulty, however, is somewhat resolved by an observation of von Hansemann who points out that it is quite possible that a greater frequency of calcareous deposit in experimental atheroma may be explained by the fact that the animals experimented on are much more liable to deposit lime in degenerated tissues than is the case in such mixed feeders as mankind. We know quite well that in herbivora much more calcification occurs in and about tuberculous lesions than in man.

A feature which is very remarkable in experimental atheroma is that actual aneurysms are formed. Microscopic examination of the walls of these aneurysms shows a complete disintegration and rupture in the internal and middle coats and the wall of the aneurysm itself may be formed by little else than an attenuated external coat. (See Fig. 4.) It may be thought that such experiments have provided us

FIG. 1.

Experimental atheroma produced in the aorta of rabbits by intravenous injection of adrenalin. (After Külbs.)

FIG. 2.



Experimental adrenalin atheroma. Section of part of vessel involved in the change, showing disappearance of muscular tissue between elastic fibres, loss of waviness of the latter as well as disintegration between *a* and *b*, which marks the site of one of the slight diverticula produced. *i*, Inner coat. *m*, Middle coat. Specimen specially stained to show elastic fibre. (After Erb.)

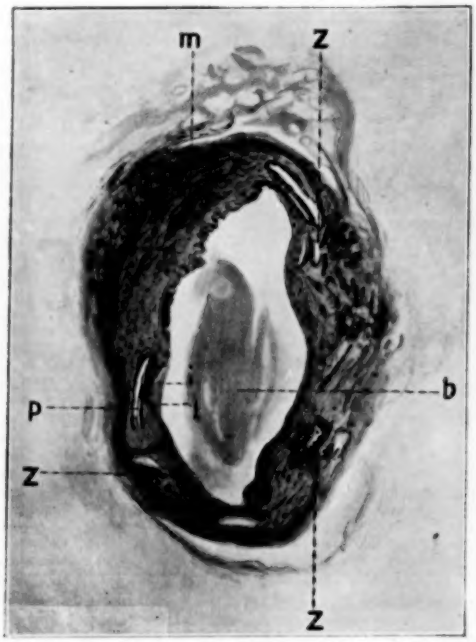
[27] Josué, La Presse Médicale, 1903, p. 799; Comptes Rendus de la Société de Biologie, 1904, p. 539; Ibid., 1905, p. 319.

[28] Walker Hall, loc. cit.

[29] W. Erb, jun.: Wiener Medicinische Presse, 1904, *S.* 885; Archiv für Experimentelle Pathologie und Pharmakologie, 1905, Band liii., Heft 3, S. 173. Elliott: Journal of Physiology, 1905, vol. xxxii., p. 400. Braun: Münchener Medizinische Wochenschrift, 1905, S. 533. Mironescu: Therapeutische Monatsschrift, 1906, Heft 1, S. 39. Lissauer: Berliner Klinische Wochenschrift, 1905, S. 675. Sturli: Wiener Klinische Wochenschrift, 1905, S. 320. Külbs: Archiv für Experimentelle Pathologie und Pharmakologie, 1905, Band liii., Heft 1 and 2, S. 140. Von Rzentkowski: Berliner Klinische Wochenschrift, 1904, S. 830. Scheidemandel: Virchow's Archiv, 1905, Band clxxxi., S. 382. Fischer: Deutsche Medicinische Wochenschrift, 1905, S. 693. Loeb and Githens: American Journal of Medical Science, 1905, p. 668.

with an admirable example of auto-intoxication and that we have in the results a most signal proof of the importance of tissue extracts in the production of human arterial disease. Much as one is impressed with the close similarity of this experimental arterial disease with that met with in man, more close than the effects produced in any other experiments dealing with this subject, I do not bring forward these observations as proof of auto-intoxication for the very simple reason that I cannot correlate experimental adrenalin atheroma with any clinical condition in which it can be

FIG. 3.



Experimental adrenalin atheroma. Section of an artery. *m*, Middle coat. *l*, Weakened and dilated elastic lamina. *f*, Proliferative change in inner coat. *p*, Calcareous deposit in middle coat. *z*, Areas of round-celled infiltration. *b*, Blood clot. (After Erb.)

shown that arterial disease is due to disturbed function of the suprarenal gland. My purpose in bringing these observations forward is to show that blood pressure when raised beyond the normal limit is not necessarily the cause of *degenerative* changes in the vessel wall, however much it may lead to hypertrophy of the middle coat; if adrenalin is injected with an amount of amyl nitrite which is just capable of neutralising its pressor effects, arterial disease identical with that produced by adrenalin alone is manifested—in other words, adrenalin produces its effects, not because of its pressor tendency, but from some other much more subtle influence. Moreover, nicotine, which is known to cause a rise of blood pressure when injected for prolonged periods of time, is incapable of producing such arterial disease. The same may be said of the injection of caffeine. It would therefore appear that adrenalin exerts a toxic effect on the middle coat of arteries which is quite independent of any pressor effect.

We know in the study of human arterial disease that some of the earliest and most constant changes met with take place in the middle coat. We know, for example, that hypertrophy of the middle coat may be a marked feature. Such hypertrophy of the middle coat must take place in response to some stimulus. We have seen that kidney extract is capable of acting in such a way as to raise the blood pressure. There has thus been found a substance capable of producing raised blood pressure and possibly hypertrophy of the middle coat which Dr. T. D. Savill,[20] recalling the changes described by Sir George Johnson in certain cases of renal disease, has shown in his recent study of a large series of cases to be a marked feature whenever arterial pressure rises. We have no experimental grounds for believing that persistence of such stimulus or any other stimulus should at length lead to degeneration instead of hypertrophy of the middle coat, but we can see from the effects of adrenalin that it is possible for derivatives of the body actually to produce that degeneration of the middle coat with atrophy of elastic tissue which constitute so marked a feature in human arterial disease and which has been shown to be the earliest manifestation of arterial degeneration,[21] occurring even in quite tender years.[22]

FIG. 4.

Experimental adrenalin atheroma. Section of vessel affected, stained to show elastic tissue. Rupture has taken place in the internal and middle coats leading to the formation of an aneurysmal dilatation. (After Kühn.)

SUMMARY.

I must now place before you the conclusions that I think may be drawn from various observations referred to in these lectures. Auto-intoxication by the tissues of various organs or by derivatives of these tissues is very probable. We know clinically a group of cases in which the kidney has undergone reduction in size. This reduction of size affects mainly the cortex. In a large proportion of these cases we know that the blood pressure has been raised and certain signs and symptoms spoken of as uræmia were present. We have been quite ignorant of the agency which was responsible for both the raised blood pressure and the uræmia. The discovery has been made by Tigerstedt and Bergman that the kidney substance, especially the cortex, when fresh, is capable of causing experimentally a rise of blood pressure. The actual substance responsible for this effect has not been

[20] Savill, T. D.: Transactions of the Pathological Society of London, 1904, vol. lv., p. 375.

[21] Jores: Wesen und Entwickelung der Arteriosklerose, 1903.

[22] Oppenheimer: Virchow's Archiv, 1905, Band clxxxi., S. 382.

isolated. It is not a crystalline body but is of a colloid nature, or is so closely associated with colloid substances that it cannot be dialysed. It is very labile and appears to be destroyed when the kidney tissue has lost its freshness. Clinical and experimental observations therefore support the view that maintained hypertension may be due to the entrance of kidney substance into the circulation.

Seeing that raised blood pressure occurs so often in uræmia it is reasonable to think that the latter also may be due, in part at least, to the entrance into the system of toxic material derived from the same source—viz., the kidney. That the cerebral manifestations of uræmia are due to arterial spasm in conformity with Traube's theory may be accepted in view of the fact that the toxic substance derived from the kidney acts upon the peripheral centres of the vaso-motor nerves, and we know that the cerebral arteries, although formerly alleged to be devoid of vaso-motor nerves, possess a nervous supply.[33] The pressor

FIG. 5.

Section of the aorta in the neighbourhood of a rupture which occurred in a child, aged nine years; showing cloudy degenerated areas in the media. (After Oppenheimer.)

effect of the kidney substance may be lost when the organ has undergone autolysis. Seeing that autolysis is an accepted physiological agency by which the chemical changes of the body are carried on it is reasonable to believe that autolysis has a new significance for pathology. It is known that when tissues are cut off from the circulation experimentally autolysis after a certain period of time takes place. If, then, the blood-supply to various organs is cut off by arterial disease there is reason to believe also that after a certain period of time the organs undergo atrophy by a process of autolysis. Autolysis is a process allied to digestion and is due to the existence of intracellular proteolytic enzymes. No derivative of autolysis is known which is capable of causing a rise of blood pressure. Therefore kidney substance can alone be the cause of the rise of blood pressure met with in renal disease; it must enter the circulation before autolysis has occurred during the period of maintained vitality which Miss Lane-Claypon and Dr. Schryver have shown to exist before autolytic degradation takes place.

All organs which have undergone the initial process of autolysis may yield such substances as proteoses, histones, nucleinic acids, and choline. In this stage they can yield to the circulation material which is capable of exerting a fall in the blood pressure. If autolysis of organs has proceeded further the derivatives are, so far as the blood pressure is concerned, quite without effect. Although the existence of proteoses in the circulation is a physiological impossibility it is probable enough in pathology. Proteosuria is well recognised and is probably not dependent only on the presence of digestive ferments in the urine, but more probably depends in part upon autolysis of kidney substance, or even of the tissues of other organs. It is known that in certain cases of granular kidney proto- and hetero-proteose may occur. Moreover, in uræmia with suppression of urine it is well known that proteosuria is apt to occur. The fall of blood pressure, which is a feature of some cases of renal disease or which may supervene after a period of high blood pressure, may be adequately explained by the entrance into the system of derivatives of kidney tissue which have undergone the early stages of autolysis. The experimental observation that kidney substance can produce different effects according as to whether it has or has not undergone autolysis is not only of importance in the consideration of various clinical problems connected with the elevation or depression of blood pressure, but has other important bearings. The extracts made from fresh highly cellular organs when injected into the circulation experimentally are capable of producing widespread coagulation. There has, however, been one insuperable difficulty in accepting such an explanation—namely, that it was difficult to believe that the cells of any organ could liberate their contents in such a fresh and unaltered condition into the circulation as to produce in disease the effects produced experimentally. The view that fresh kidney substance can enter the circulation and produce results quite the reverse of those produced when the kidney substance has undergone autolytic degradation gives us much more reason for adopting Wooldridge's explanation of certain cases of ante-mortem thrombosis, and to accept the view that such condition is due to the entrance into the circulation of nucleo-proteids derived from various organs.

Possibly the occurrence of various cerebral palsies in uræmia independent of hæmorrhage is due not to vascular cramp effected by the entrance of renal substance into the circulation but is due to the coagulating properties of this fresh tissue or of some other organ involved in the disease. The action of kidney substance when once it has reached the circulation and produced a rise in pressure provides us with an explanation of the common occurrence of hypertrophy of the middle coat of the arteries and of the heart. There is no experimental evidence which would lead us to believe that mere elevation of blood pressure can cause degenerative change in the blood-vessels. Adrenalin, however, can cause widespread degeneration of the middle coat, development of atheroma, and even aneurysm. Though it is not possible to recognise any clinical correlative to the experimental production of atheroma in the blood-vessels by means of the injection of adrenalin or other suprarenal products, yet the fact that a substance derived from an organ like the suprarenal body can produce a disease so much like atheroma and so much like the earliest changes met with in the media in human pathology cannot fail to arouse our interest and stimulate further research on problems which have remained unsolved for so many years.

The duty now remains to me to thank you for the patience with which you have listened to these lectures. I am only too well aware of their shortcomings but if I have succeeded in bringing before your notice some observations which may throw new light upon pathological problems which are so puzzling I hope I have made proper use of the occasion of delivering these lectures. During their preparation it has been a frequent and pleasurable experience to find that the problems connected with disturbance of the cardio-vascular mechanism have attracted the attention of so many Fellows of this College, with notable success has this been the case with our distinguished President. The immense importance of autolysis has only last year been brought before you by Dr. W. H. Allchin[34] in connexion with the subjects of nutrition and malnutrition; to call your attention to the bearing of autolysis upon the subject of blood pressure is to do little more than further his efforts in unravelling obscure pathological problems by reference to this subject. Considering the complexity of the problems discussed it is with feelings of the greatest diffidence and hesitation that I have presumed to present to you in these lectures a new aspect of auto-intoxication; my excuse must be that although I may have added little knowledge by making the effort I have given expression to difficulties which require solution. One final pleasure is to acknowledge the help and advice most generously

[33] Gulland: Brit. Med. Jour., 1898, vol. ii., p. 781.

[34] Allchin: The Lumleian Lectures, THE LANCET, April 29th (p. 1111), May 6th (p. 1180), 13th (p. 1250), and 20th (p. 1319), 1905.

accorded to me by my colleagues at University College Hospital and especially to thank Dr. Charles Bolton for the assistance which he has afforded in the experiments referred to in these lectures, and Mr. Thomas Lewis, house physician to Sir Thomas Barlow, for important references and for his coöperation in the clinical part of the study.

[*Note.*—Since delivering these lectures I have received a private communication from Professor Robert Tigerstedt; his experiments were carried out by means of ether narcosis with spontaneous respiration; no other narcotic was used. In view of the paucity of the observations made on the pressor effects of blood drawn from the renal vein he admits that the observations require further confirmation; no reservation whatever is necessary, however, in the matter of the pressor effect of renal substance.]

HÆMATOMA OF THE OVARY AND CERTAIN OTHER CLOSELY ALLIED CONDITIONS.

BY HAROLD W. WILSON, F.R.C.S. ENG.

IT will be necessary in the first instance to define exactly what is meant by the term "hæmatoma of the ovary." Hæmorrhages, not necessarily pathological, into the interior of the ovary are divided into two distinct classes: 1. Hæmorrhage into pre-existing cavities, in which the blood remains definitely encysted by a true capsule. This group includes those cases of hæmorrhage into one or more Graafian follicles and into the cavity of an ovarian cyst as a result of twisting of the pedicle. In the former the limiting membrane is composed of the cells of the membrana granulosa, in the latter there is a true adenomatous epithelial lining. 2. Hæmorrhage into the ovarian stroma. Now it is to Group 2 that the term is applied and the condition is exactly comparable to the state of affairs one finds occurring as the result of bruising of the more superficial tissues in other parts of the body.

Hæmatomata of the ovary may be divided up as follows: 1. A group of cases which I will for the present designate as "idiopathic." 2. Those due to torsion of the pedicle of the ovary causing obstruction to the venous return. There are three main causes of this: (*a*) hernia of the ovary; (*b*) rotation of a slightly enlarged ovary causing twisting of the broad ligament; and (*c*) the presence of some abnormal predisposing condition in the pelvis—e.g., a broad ligament cyst (see Case 5), the actual twist being brought about by some sudden muscular movement or strain, perhaps associated with a distended bladder. This last variety is analogous to torsion of the testicle seen in cases of imperfect descent. 3. Toxic conditions causing punctiform or more extensive hæmorrhages: (*a*) some of the acute specific fevers—viz., scarlet fever or enteric fever; (*b*) profound septic intoxication—viz., general peritonitis or puerperal sepsis. (See Fig. 1.) It is also seen sometimes post mortem in fatal cases of perforated gastric or duodenal ulcers. 4. Ovarian pregnancy. It is with Groups 1 and 2 that I am concerned, my cases being examples of these conditions; Group 3 is of merely pathological interest and Group 4 is a special subject into which I do not propose to enter.

Hernia of the ovary, of course, cannot be diagnosed until the peritoneal sac is incised, as its physical characters are indistinguishable from those of a roll of inflamed and indurated omentum. It is the so-called "idiopathic" variety that is of such great interest and to attempt to understand the pathology of the condition one must study the maturation of an ordinary Graafian follicle. As the menstrual period approaches there is an increased influx of blood to the pelvic organs. As a result of this, during the process of ovulation the intra-ovarian tension rises and forces the enlarging follicle towards the point of least resistance, the periphery of the gland. At a bloodless and thinned-out point on the surface of the ovary, the stigma, the follicle eventually ruptures intraperitoneally. The ovum is discharged together with the degenerating cells of the membrana granulosa. Hæmorrhage then takes place into the follicular cavity, probably slightly from the ruptured margins, but in the main from the vessels of the lutein tissue, and in this way a corpus luteum is formed. Fibrous septa richly supplied with blood-vessels and lymphatics project into, and throw into folds, the mass of lutein cells and it is from rupture of these capillaries that the bleeding occurs. In normal circumstances a rounded clot is formed filling up the follicular cavity. But occasionally this does not happen and the abdomen has to be opened to stop internal hæmorrhage, so profuse as to threaten the patient's life. At the time of operation the pelvis is found full of blood and on the surface of the ovary is a recent corpus luteum oozing freely. In one of the cases described, in which the abdomen was opened for what was thought to be a perforated gastric or duodenal ulcer, a recent large corpus luteum was found on the surface of the ovary and a drop or two only of recent blood within the peritoneum. Under some conditions, which will be discussed later, hæmorrhage from the lutein vessels occurs into the follicular cavity before the maturing follicle has reached the free surface of the ovary. In specimens which are seen at post-mortem examinations the presence of these small cysts appears to be of fairly common occurrence. The cyst thus formed may then rupture and the fluid blood may force its way into and infiltrate the ovarian stroma, forming a true hæmatomata. Hæmorrhage then goes on until the tension

FIG. 1.

Uterus and ovaries removed post mortem from a case of puerperal septicæmia. Each ovary shows a considerable quantity of extravasated blood in its substance.

of the distended ovary equals that of the blood and so checks the flow, or secondary rupture may occur and the blood pour out into the general peritoneal cavity to form a pelvic hæmatocele. The ovary, enlarged sometimes to the size of a small orange, falls into Douglas's pouch. In course of time the fluid portion of the blood is absorbed and a clot of almost colourless fibrin occupies the central cavity. On cutting continuous sections of these specimens a central blood clot is found, limited by a circle of normal ovarian stroma, and at one or more points of this false capsule small masses of lutein cells can be identified. There is no trace of chorionic villi and some cases of supposed ovarian gestation on careful investigation prove to be cases of this kind, no evidence of villi or other fœtal tissues being discovered. At present no satisfactory explanation of the cause of this pathological condition is forthcoming. It has been called ovarian apoplexy and erroneously compared to cases of cerebral hæmorrhage, but these types are widely dissimilar.

Ovarian hæmatomata occur in young patients whose pelvic organs are at the height of their functional activity and whose tissues are exceedingly well nourished. Cerebral apoplexy, on the other hand, arises in patients either old or relatively old—that is to say, in people whose arterial system is degenerate and in whom the surrounding cerebral substance is undergoing fatty degeneration and softening from malnutrition. There is no evidence of endarteritis in these cases. It has been assumed that there is some softening of the ovarian stroma but there is no microscopic or other sign of this. It is worthy of note that in some of these cases there is a condition of old salpingo-cöphoritis, as in Case 6. It may be that the tough and thickened peritoneum on the ovarian surface prevents intraperitoneal rupture of the follicle. Several blood cysts, as in this case, are thus formed. Normal retrogressive changes do not occur and as a result of absorption of contiguous septa one large cavity containing blood may be produced. These cases occur in otherwise healthy young women at or about the time of menstruation and the one positive piece of evidence we have is that the generative organs are engorged with blood and that the local blood pressure is high. They frequently occur in patients who may be presumed to be in a state of relatively high sexual excitement—viz., in the few days preceding or in the first few months after marriage. There is one case on record of a woman who died from shock on the eve of her marriage as the result of a profuse intraperitoneal hæmorrhage from a ruptured corpus luteum.

The clinical aspect of these cases is perhaps their most interesting point. They are almost impossible to diagnose with any certainty, as they so closely resemble other conditions which are at least comparatively common. There are two cardinal symptoms—abdominal pain and uterine hæmorrhage. The patient is usually a young woman and the onset of symptoms is coincident with the time of menstruation. Sometimes the period of actual menstrual loss is cut short. The pain, which is caused by the rupture of a follicle and distension of the ovary, is severe, sudden, colicky in character, and in a typical instance is referred to the umbilical or epigastric regions, gradually settling in the affected iliac fossa or lower abdominal zone. There are usually vomiting and collapse. Indeed, the shock in cases where there is no actual intraperitoneal hæmorrhage is a very prominent feature and seems to be entirely out of proportion to the lesion found. On examination the patient is seen to be losing blood per vaginam, which she herself calls menstruation, and which often coincides in time of onset with the date of an expected "period." Respiratory movement of the abdomen is limited, the muscles are rigid, and there is general tenderness, usually over the whole abdomen, with a maximum point in one or other iliac region—if on the right side immediately below the usual appendix area. Per vaginam and per rectum there may be a tender moveable resistance or perhaps only a fulness distinguishable in Douglas's pouch. In acute cases bimanual examination is impossible on account of the abdominal rigidity. The slighter cases clear up completely with a week's or ten days' rest in bed. I would suggest that some of the cases of abrupt cessation of a period with severe pain in young women which are usually put down by the patient to "cold" or "inflammation" come under this category. In the more severe cases, where pain is the prominent symptom, from its very position a perforated gastric or duodenal ulcer or appendicitis may be diagnosed and an abdominal section performed before the real condition is appreciated. Where secondary ovarian rupture has occurred the signs of grave internal hæmorrhage necessitate instant laparotomy, for what, in many cases, will be thought to be a ruptured ectopic gestation. It is to the general surgeon that these cases come and unless one has their possibility in mind the condition may easily be overlooked in the slighter forms, even after the abdomen has been opened.

My thanks are due to the various members of the staff of St. Bartholomew's Hospital for their kindness in allowing me to make use of their cases. Mr. H. J. Waring's patients were under my own care and observation as his house surgeon. I have recorded Case 1 in some detail, as it is perhaps the most typical example of the series.

CASE 1.—The patient, an unmarried woman, aged 19 years, was admitted to St. Bartholomew's Hospital under the care of Mr. Waring on Feb. 11th, 1905, complaining of abdominal pain. She had been in her usual fair state of health up to Feb. 9th. In the afternoon of that day while sitting at her work she was seized with sudden colicky pain in the right iliac fossa which lasted for approximately ten minutes. Then the acuteness of the attack wore off and she was left with a dull aching pain and a feeling of soreness in the same region which remained until the date of her admission. This pain was severe and was made worse by direct pressure and by movement. She vomited once at the time of onset and once subsequently in the evening of the same day. She had been more constipated than usual during the preceding week, otherwise no further symptoms could be elicited. There was no history of any hæmorrhage or discharge from the vagina, no pain on micturition, and no pain in the left iliac fossa. She had never had a similar attack previously and had never suffered from "indigestion" or from a purulent vaginal discharge. The catamenia had been regular every 28 days and of average amount. There had been no pain. The last normal period occurred from Jan. 3rd to 6th, and had since then been absent.

On examination the patient was found to be fairly comfortable. Her right leg was slightly drawn up. Her general condition was good. Although anæmic she did not look actually ill. The tongue was furred and showed no signs of cleaning. The pulse was 112 and regular, with fair volume and tension; it gradually dropped to 94 on the second day after admission. The temperature was 98·2° F. and it remained subnormal throughout. The breasts showed no signs of activity. The movement of the abdomen was fair but there was slight restriction in the lower part. No fulness was evident. There were considerable tenderness and muscular rigidity in the right iliac fossa, the most tender point being about two inches below the centre of a line drawn from the right anterior superior iliac spine to the umbilicus. No actual swelling was felt. The vagina admitted two fingers, there being a small crescentic hymen. No discharge was visible. The cervix was nulliparous, the canal being closed. There was considerable tenderness in the right posterior quarter of the pelvis. Bimanual examination was difficult on account of abdominal rigidity. The uterus was normal in position and size. In the right posterior quarter was a rounded, indefinite, elastic, tender swelling which appeared to be about one and a half inches in diameter and was separated from the uterus by a groove. Examined per rectum there was found to be tender resistance in Douglas's pouch.

On Feb. 13th the abdomen was opened by an incision rather lower than the usual appendicectomy one, the muscles being divided in the direction of their fibres. The appendix was found lying in the "south-east" position and appeared to be quite normal except that at its tip it was attached to a swelling in the pelvis by a recent adhesion. In, and projecting from, the upper and posterior part of the right broad ligament was a globular purplish swelling about two inches in diameter. It was extremely tense and contained fluid. The tumour was identified as an enlarged right ovary, over the apex of which ran the right tube with its fimbria ovarica attached to the swelling. A good pedicle was obtained, transfixed, and the tumour was removed. In so doing, however, the ovary ruptured and about an ounce of dark fluid blood escaped. The left ovary feeling normal the abdomen was closed. The patient made a good recovery.

The ruptured specimen on being hardened quickly contracted down almost to the shape and size of an ordinary ovary. Continuous sections showed the normal ovarian stroma to be infiltrated with blood and at one edge of the hæmatoma a mass of lutein tissue was seen. No trace of chorionic villi could be discovered.

CASE 2.—The patient, an unmarried woman, aged 26

years, was admitted to St. Bartholomew's Hospital under the care of Dr. F. H. Champneys on April 6th, 1903. Three weeks previous to admission she had had a sudden attack of severe pain in the region of the right iliac fossa. The pain was colicky in nature. It made the patient feel sick and faint but she did not actually vomit and it was made worse by any movement. Although it had considerably improved in 12 hours it continued as a dull dragging pain in the same region until admission to the hospital. The catamenia had been regular every 28 days, lasting for seven days and with average loss. Small clots passed. There had been slight pain of an aching character in the hypogastric region. The last "period" had occurred on April 3rd. For the last three months the "periods" had lasted only three days. From April 15th to 24th there was a slight red vaginal discharge. It was elicited that in 1894 the patient had suffered from an attack of pain in the lower part of the abdomen and that in 1897 a more severe attack similar to the present one in the left iliac region had been experienced. At that time she was in hospital for five weeks. She had always suffered from constipation.

On examination the general condition of the patient was found to be good. There was no rise of temperature or of pulse. The uterus, which was normal in size, was retroverted to the left and was fixed. A sound passed the concavity backwards and to the left two and a half inches. Behind and to the left side of the uterus was an oval elastic swelling of about the size of a hen's egg. It was slightly tender and was fixed.

On April 29th Douglas's pouch was opened through the post-vaginal fornix. The tumour was seized with forceps and was pulled down, a quantity (about an ounce) of blood escaping at the same time although the swelling was not ruptured during the procedure. The left Fallopian tube appeared to be healthy. The tumour was removed and the patient made a good recovery.

The tumour (see Fig. 2) (Specimen 2910 B, St. Bartholomew's Hospital Museum) consisted of an ovary enlarged

FIG. 2.

by the presence of a smooth-walled cavity containing fluid blood in the recent state. The surface was pitted and roughened and had some fragments of old blood clot adherent to it.

CASE 3.—The patient, aged 31 years, unmarried, was admitted into St. Bartholomew's Hospital, under the care of Mr. John Langton, on April 14th, 1898, complaining of abdominal pain. On April 2nd, during a monthly "period," she had been suddenly seized with abdominal pain in the pelvic region. Her menstrual flow stopped abruptly two days before its usual time. On the 4th she had still considerable hypogastric pain and the temperature was 100·8° F. On the 6th she had improved so much that she made an attempt to get up but was unable to do so. She became "delirious" at night. A slight red vaginal discharge commenced which lasted until the date of operation.

On admission the patient was found to be suffering from retention of urine. This was relieved by catheter and occasioned no further trouble. She vomited on the 15th and again twice on the 16th. On the 18th she had considerable diffuse abdominal pain which came on gradually. The abdomen was distended and movement was greatly impaired. The pulse frequency was raised.

On April 18th a median laparotomy was performed. In the lower abdomen the coils of intestine were found to be adherent and matted together by recent plastic lymph. The appendix region was natural. The uterus was retroverted. On attempting to raise it about four ounces of dark, almost black, fluid blood escaped. This was lying in Douglas's pouch and had been completely shut off by the uterus and by recent adhesions. The Fallopian tubes appeared to be natural. The conclusion which was formed at the time of operation was that the blood had been derived from a large corpus luteum present on the surface of one of the ovaries.

CASE 4.—The patient, a married woman, aged 34 years, was admitted into St. Bartholomew's Hospital under the care of Mr. H. T. Butlin on May 13th, 1902, complaining of abdominal pain. She had been married seven years but there had been no pregnancy. On May 11th she had experienced a sudden attack of severe pain in the epigastric and right iliac regions but with no vomiting. The pain remained until admission to hospital. The bowels had been well opened once on the 12th. On the 13th the patient vomited three times. The catamenia had been regular every 30 days, of seven days' duration, and of average amount. The last *regular* "period" had occurred from April 9th to 16th and the last "period" from May 9th to 11th, sudden cessation taking place on the last-named date.

On examination the patient looked ill, although her appearance suggested discomfort rather than intense pain. The eyes were sunken and the knees were drawn up. The temperature was 101° F., the pulse was 126, and the respirations were 32. The abdomen was distended and tympanitic all over and movement was impaired. There was general tenderness. Liver dulness was present. Per vaginam and per rectum considerable tenderness in Douglas's pouch was manifest.

On May 13th the patient underwent a median laparotomy. There was no free fluid or gas in the abdominal cavity and there was no perforation of the stomach or of the duodenum. The appendix region was natural. In the region of the right ovary were several old adhesions. On the surface of the ovary was a large recent corpus luteum, with a slight amount of bright red staining of the peritoneal surface of the gland in the immediate neighbourhood. The abdomen was closed and complete recovery followed.

CASE 5.—The patient, aged 23 years, unmarried, was admitted into St. Bartholomew's Hospital under the care of Mr. Waring at 11 P.M. on Dec. 6th, 1905, complaining of abdominal pain. She had had no previous similar attacks. The catamenia had been regular every 28 days, of seven days duration, and of average amount. The last "period" had lasted from Nov. 8th to 14th. On the afternoon of Dec. 6th the patient had had a sudden attack of abdominal pain in the region of the umbilicus. The pain had been severe and diffuse and had gradually settled in the right iliac fossa. There had been no vomiting or faintness. After the first paroxysm there was slight improvement but the pain was continuous. There had been no constipation.

On examination the general condition of the patient was found to be good. She had an anxious expression. The pulse was 100 and the temperature was 99° F. The abdomen was not distended but there was impaired movement below the level of the umbilicus. There were muscular rigidity and tenderness in the right iliac fossa. Immediately below the appendix region and apparently lying in contact with the anterior abdominal wall was an oval lump about two inches by one inch in area. Its long axis was lying downwards and outwards. The swelling could be rolled under the finger tips and was tender and elastic. Nothing else abnormal was discovered. Per vaginam and per rectum a tense elastic tender resistance in Douglas's pouch was felt. Bimanual examination was unsatisfactory on account of the tenderness and rigidity. There was an indefinite elastic swelling lying behind, and to the right of, the uterus continuous with the resistance described above. Its limits could not be outlined. The small abdominal lump was lying in front, and to the right, of the larger swelling.

Operation was carried out on Dec. 7th. An appendix incision was made, the muscles being divided in the line of their fibres. Immediately the abdomen was opened the small lump previously felt was seen to be an oval purple body abutting against the anterior parietal peritoneum. In the right broad ligament was found a small cyst, the surface of which was reddened. It contained clear fluid. On further examination the smaller swelling was identified as the enlarged right ovary with a twisted pedicle. The gland had been apparently turned forwards over the cyst and was lying in a small pool of blood-stained serum. The ovary and cyst were both removed and the incision was closed. The patient made a good recovery.

The specimen (Fig. 3) was found to consist of the right

FIG. 3.

appendages and a thin-walled unilocular cyst. The tube was elongated and stretched over the surface of the cyst, which was of about the size of a large orange and lay between the layers of the broad ligament. The pedicle, near its uterine attachment, was twisted. The torsion was greatest at that part at which are situated the ovarian ligament and vessels. As a result of this torsion the distal portion of the Fallopian tube and adjacent part of the wall of the cyst were congested and hæmorrhages had occurred into the tissues. The most marked changes had occurred in the ovary itself. This organ was enlarged to double its usual size and was purplish-black on the surface. On section at the free pole was seen a recent corpus luteum and the whole of the ovarian tissues were infiltrated with blood extravasation. A number of nearly mature Graafian follicles were visible but into these hæmorrhages had not occurred. The corpus luteum was everywhere bounded by lutein tissue and there was no evidence that the blood extravasation into the ovarian stroma had come from it.

CASE 6.—The patient, a married woman, aged 25 years, was admitted to St. Bartholomew's Hospital under the care of Mr. Waring on Dec. 22nd, 1905, complaining of abdominal pain. She had been married since 1902 but there had been no pregnancy. She had been seized with a sudden attack of abdominal pain, chiefly localised in the right iliac fossa, on the night of Dec. 19th. The pain, which was severe and colicky, remained until her admission to hospital, although it was not so bad after the first paroxysm had passed off. There had been no vomiting and there was no history of constipation. The last regular "period" had occurred from Dec. 15th to 18th.

On examination the general condition of the patient was found to be good. The temperature was normal and the pulse was quiet. The breasts were inactive. There was slight abdominal deep tenderness immediately below the appendix region. The uterus was retroverted. It was not bulky or tender and was easily replaceable. In the right broad ligament was an oval semi-elastic body two inches by one inch, with its long axis parallel to the long axis of the uterus and separated from the latter by a groove. It felt like a slightly enlarged and tender ovary. Immediately above this and not directly continuous with it was another transversely oval swelling which felt hard and was not elastic. It was not tender.

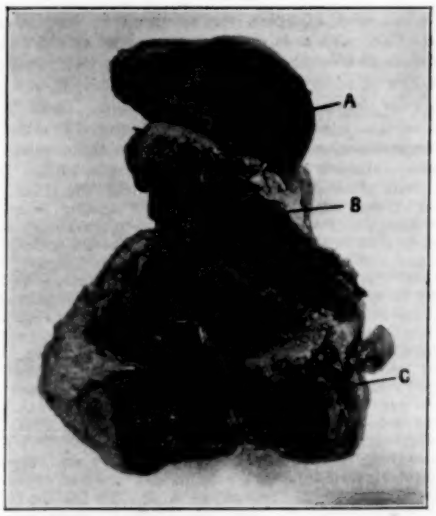
On Dec. 26th a median laparotomy was carried out. The right ovary and tube were removed. The left appendages were natural.

The specimen consisted of the right ovary and tube. The latter was convoluted, thickened, and adherent to the ovary. At one spot about an inch from the abdominal ostium was a slight constriction distal to which the Fallopian tube appeared to be natural. On section the tube wall was seen to be enormously thickened by dense white fibrous tissue. Its cavity was not dilated and the mucous membrane looked healthy. The ovary was about one and a half times its ordinary size and was slightly matted to the distal end of the tube by old adhesions. Projecting from its surface were several small follicular cysts. On section the ovary contained in all four small cysts, the largest being two thirds by one-third of an inch in area. Into these hæmorrhage had occurred. Scattered through the stroma of the gland were several small punctiform hæmorrhages. The microscope showed the wall of the largest cavity to be composed of cells of the membrana granulosa and of lutein tissue whilst into the surrounding tissues extravasation of blood had occurred.

CASE 7.—The patient, aged 36 years, married, was admitted under the care of Dr. Champneys on Jan. 27th, 1906, complaining of bleeding from the vagina and abdominal pain. The catamenia had been regular. The last "period" had occurred from Dec. 10th to 16th. On Jan. 17th a sudden attack of severe abdominal pain, which gradually settled in the right iliac fossa, had been experienced. No vomiting had occurred. Coincident with the onset of the pain there was hæmorrhage from the vagina but this was not severe. There had been a slight blood-stained discharge up to the time of admission. The pain persisted until the operation and was described by the patient as coming "in pangs."

On examination an elastic fixed tumour about three inches by two inches was found occupying the right posterior quarter of the pelvis. The uterus was retroverted but not fixed. A sound passed the concavity backwards three inches. The breasts contained secretion but showed no other signs of present activity. The opinion was that the case was one of ectopic gestation (tubal mole).

FIG. 4.



The abdomen was opened by Mr. Harrison Cripps on Jan. 31st. After the recent adhesions fixing the swelling in Douglas's pouch had been broken down it was pulled up, a good pedicle was obtained, and the tumour was removed. The patient made a good recovery.

The specimen consisted of the right appendages. The

ovary formed the main portion of the swelling and was distended by about two ounces of dark fluid blood. The cavity in its interior was lined by smooth shining fibrin and at one portion of the wall well-marked lutein tissue was present. In the median portion of the tube was a transversely oval swelling one inch by half an inch formed by a hæmatosalpinx, sections showing well-marked chorionic villi and thus demonstrating it to be a tubal mole. Fig. 4 shows the following parts from above downwards: A, the Fallopian tube laid open in its long axis, containing blood clot and well-marked decidua; B, the open fimbriated extremity of the tube; C, the ovarian hæmatoma, artificially ruptured, and its walls brought together by a suture.

CASE 8.—The patient, aged 15 years, was admitted under the care of Dr. Champneys on Jan. 29th, 1906, complaining of abdominal pain. She had never menstruated. The first "period" began on Jan. 22nd and was accompanied by a sudden attack of severe hypogastric pain. There was some vomiting. There was a slight blood-stained vaginal discharge for two days. The pain remained until the time of admission to hospital. The temperature on the evenings of Jan. 25th, 26th, and 27th rose to 103° F.

On examination the patient looked ill and distressed. The temperature was 99·8° and the pulse was 104. The patient complained of a bursting feeling in the pelvis. In Douglas's pouch was an elastic tender swelling of about the size of a Tangerine orange. It was not sharply defined and did not follow any outline but that of peritoneal reflection. The uterus was not outlined. A sound passed the concavity forwards two and a half inches. The uterus was fixed. Within two days the temperature had fallen to normal and all pain had disappeared. When examined on Feb. 9th nothing was felt except a slight thickening in the right posterior quarter of the pelvis.

There can be little doubt that this was a case of pelvic hæmatocele due to a ruptured Graafian follicle which rapidly cleared up.

Welbeck-street, W.

HÆMORRHAGIC PURPURA DURING CONVALESCENCE FROM SCARLET FEVER.

BY A. G. BANKS, M.B., CH.B. GLASG.,
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A YOUTH, aged 17 years, was admitted to hospital on July 7th, 1905, with a fairly severe attack of scarlet fever. He had been ill four days. The rash was very vivid, tending to be dusky in some places, the tongue was coated, and the tonsils were showing considerable exudation. There were marked cervical adenitis and a moderate degree of bronchitis. The temperature, which was 103·8° F. on the evening of admission, subsided by lysis to normal on the 15th. The throat still showed some congestion. On the 23rd he vomited several times and complained of fleeting pains in his shoulders and wrists, in addition to more severe and continuous pain in the left lumbar region, where also definite tenderness and rigidity were present. The tongue was furred and the temperature exhibited a slight rise—99·4°. On the following day the temperature was normal, pain and tenderness in the epigastrium had developed, and over the left elbow there were several large petechiæ, while the buccal mucosa also showed smaller hæmorrhages. There was marked pallor, the superficial veins being, however, engorged; the pulse was weak but regular and a trace of albumin was present in the urine. Five grains of calcium chloride were given every four hours. On the 25th the abdominal pain and tenderness were, on the whole, less and he was taking nourishment (peptonised milk) well, though some fresh hæmorrhages on the hands and ears had appeared and those over the olecranon had enlarged. On the 26th, after a restless night, he had three attacks of hæmatemesis, the blood being mainly bright but never more than an ounce or so at a time. Large hæmorrhagic patches were now noted over the other elbow. The pulse was weak with a tendency to irregularity and his whole condition justified the gravest prognosis. Morphine (one-eighth of a grain) administered about mid-day controlled the vomiting and the day passed without further change. The calcium chloride was increased to ten grains every four hours. The patient passed a comfortable night; the vomiting did not recur, though in the early morning he complained of epigastric pain. The pulse had improved and there were no more hæmorrhages. An enema was administered in the early morning with a fair result, the stool, however, containing a quantity of altered blood.

During the next two days the patient made steady progress and, the vomiting having ceased, was able to take some light food. The tongue was still slightly furred and the urine contained rather more albumin. On August 3rd the calcium chloride was omitted and except for a trace of albumin in the urine his condition was most satisfactory. The hæmorrhagic areas rapidly disappeared. Six weeks later he was sent to a convalescent hospital, the trace of albumin still persisting.

The blood changes were fairly typical of a hæmorrhagic lesion of moderate degree, the behaviour of the eosinophiles being modified by the primary disease. The coagulability was distinctly decreased: thus on July 24th the coagulation time was seven minutes, on the 25th seven and a quarter, on the 27th five and a half, and on the 29th five minutes. By August 2nd it had fallen to from two and a half to three minutes; on the 6th to two minutes, at which figure it subsequently remained. The blood-platelets were reduced in number in spite of the increase said to occur during desquamation.[1] The erythrocytes numbered 4,500,000 to the cubic millimetre on July 25th and 29th; on August 11th they were 500,000 less. During the same period the hæmoglobin rose from 75 to 90 per cent. Leucocyte counts on July 24th, 25th, 27th, and 29th gave 22,800, 20,000, 19,700, and 9000 per cubic millimetre respectively, and thereafter varied from 7000 to 8000. Differential counts were as follows:—

Date.	Neutrophiles.	Lymphocytes.	Large mononuclears.	Eosinophiles.	Basophiles.
July 25th ...	81·4	10·3	7·3	None (many fields).	—
,, 27th ...	71·4	16·3	10·5	1·6	0·2
,, 29th ...	67·0	18·8	9·0	5·0	0·2
Aug. 2nd ...	51·3	31·6	8·7	7·8	0·6
,, 6th ...	72·9	22·5	9·3	5·0	0·1
,, 11th ...	45·4	41·1	8·3	5·2	—
,, 14th ...	35·2	52·3	5·7	6·8	—
,, 20th ...	52·5	32·3	7·5	7·7	One or two.
,, 29th ...	51·6	36·0	7·9	4·5	—
Sept. 10th ...	56·6	33·8	7·3	2·3	—

The occurrence of hæmorrhages in convalescence from scarlet fever is of considerable rarity, though perhaps in the slighter degrees less uncommon than the literature would indicate. Writers in English and French text-books pay little attention to the condition. Dr. E. Smith[2] and Dr. Rotch[3] mention it and the latter indicates the fatal character of most of the recorded cases. Forchheimer[4] alludes to its infrequency and reports two cases with extensive purpuric manifestations in the skin, death occurring within 48 and 72 hours of onset respectively. Von Jürgensen[5] quotes Henoch as having seen seven cases of hæmorrhagic diathesis in scarlet fever, all favourable, though one had hæmorrhage from the mouth and ears and into the right upper eyelid with epistaxis and, in addition, nephritis. He also details a case presenting severe arthritic symptoms from Baumler's clinic. Dr. H. E. J. Biss[6] and Dr. J. W. Miller[7] each report a case of the fulminant variety where death took place within 36 hours in the one and three days in the other instance. In the latter no albumin was present in the urine nor were there hæmorrhages from the mucous membranes other than that of the nose.

The pathogeny is obscure. Forchheimer thinks the same causes are operative here as in the other hæmorrhagic diseases of children. In Dr. Biss's case the kidneys were found post mortem to be the seat of an intense fatty

[1] Da Costa: Clinical Hæmatology, 1905
[2] Eustace Smith: Diseases of Children, 1889.
[3] Rotch: Pediatrics, fourth edition.
[4] Forchheimer in the Twentieth Century Practice of Medicine, 1899.
[5] Von Jürgensen in Nothnagel's Encyclopedia of Practical Medicine, 1902. Henoch: quoted by above.
[6] H. E. J. Biss: THE LANCET, August 2nd, 1902, p. 286.
[7] J. W. Miller: THE LANCET, April 8th, 1905, p. 929.

degeneration, so that macroscopically hardly the outline of a tubule could be distinguished. In the present case the sudden onset in convalescence, the time of occurrence (twenty-first day), and the simultaneous appearance and long continuance of albumin in the urine together present a strong analogy to scarlatinal nephritis. The hæmatological findings are not inconsistent with this view. Moderate leucocytosis, the increase being mainly neutrophile, and a marked reduction in the number of eosinophiles, are changes equally characteristic of purpura and of the early stages of an intercurrent nephritis. I am disposed to believe that the condition is due to the same toxic agent or agents—largely streptococcal in origin—as produce nephritis in other cases, that, in fact, it replaced an attack of the latter. Corroborative of this view is the disproportion between the extent of the hæmorrhages and the gravity of the general condition clearly pointing to an added toxæmia, while the rapid improvement is equally notable—a common feature in many cases of late scarlatinal nephritis. In this connexion, also, the character of the initial attack is important, as the majority of the recorded cases show prolonged pyrexia with severe faucial angina.

Two conditions touching prognosis suggest themselves. First, the age of the patient is markedly higher than in most of the other cases and is evidently a very weighty factor. Secondly, the rapid and great rise in the eosinophile values is very striking and would support the inference that in this, as in the other complications of scarlet fever, a steady increase of these elements is of favourable import. The significance of the slight basophilia present is obscure, although, using Wright's stain, I have occasionally noted fractional percentages in ordinary uncomplicated cases of scarlet fever. The increased coagulability of the blood and the rapid improvement in the general state under the administration of calcium chloride seem to point to a causal connexion, though recent researches indicate that the morbid lesion in hæmorrhagic diseases is to be sought for in the vessel walls rather than in the blood.

I am indebted to Dr. J. E. Beggs, medical superintendent of the Grove Hospital, for permission to publish this case.

Tooting, S.W.

THE IMMEDIATE TREATMENT OF EXTENSIVE WOUNDS ON FIELD SERVICE.

BY CLIFFORD ALLCHIN GILL, M.R.C.S. ENG., L.R.C.P. LOND.,
LIEUTENANT, I.M.S.

THE teaching of the Russo-Japanese war, so far as it has yet been published, bears out in the main our own experience in South Africa, which was, briefly, that early operative procedures on the severely wounded are dangerous beyond the degree which modern surgery would lead us to expect. On the Russian side, at any rate, primary laparotomies were rarely performed and amputations were only undertaken 322 times in 63,346 cases of wounded, or 0·5 per cent. We have yet to learn the work in the Japanese field hospitals; at the base hospitals at Hiroshima, Sasebo, and the naval hospital in the Elliot Islands the operations were all undertaken some considerable time after the injury was received and therefore, though highly successful, are foreign to the purpose of this paper.

At present, therefore, we are not substantially ahead of the teachings of the South African war, where the various distinguished surgeons who were sent out were not slow to point out the disappointing results of immediate operations (with certain exceptions, such as injuries of cranial bones); in this they were, perhaps, not uninfluenced by the marvellous recoveries made in a limited number of cases by the apparently mortally wounded, on whom no operation was performed. The result of their teaching is that the pendulum of opinion among military surgeons is swinging right round in this direction, and the tendency at the present time is to undertake nothing but the most obvious temporary measures and to get the patient transferred as soon as possible to the nearest stationary field hospital or general hospital. It would follow from this that the operative skill would be concentrated in these hospitals to the exclusion of the field hospitals which remain in the immediate vicinity of the fighting line. This to my mind does not accord with a true reflection of the teachings of modern surgery. These, it is true, display nothing original, but are such as in their application to field service lay down very distinctly what should be the rôle of the regimental medical officer, the bearer company, and the staff of a field hospital—i.e., of those who are in a position to render first aid. At the same time these requirements are quite simple and are not inconsistent with the exigencies of military service.

The principles of treatment are, of course, (1) the arrest of hæmorrhage; (2) the prevention of shock; and (3) the prevention of sepsis. To carry out these elementary principles, and these alone, is the duty of those who render first aid. At the same time it is not inconceivable that a keen surgeon might wish on occasion to do more, both to save the patient's feelings in the future and with a view of saving valuable time subsequently; indeed, it was stated in THE LANCET that the Russian medical officers (regimental) were informed that they were only to attempt first aid and were rather disappointed to have to obey this order. But the rôle of the medical officer who renders first aid is by no means a minor one; indeed, its importance cannot be over-estimated. He has to arrest hæmorrhage as best he may, to combat shock with warmth, stimulants (unless contra-indicated), and opium, the last being particularly valuable. For this latter purpose all medical officers and subordinates who carry hypodermic syringes should be provided with a solution of morphine for field service use *instead* of tabloids. An ounce bottle containing a *freshly* prepared solution in sterilised water of hydrochlorate of morphine of a certain strength—say one-third of a grain in five minims—would answer the purpose. This could easily be prepared in field hospitals and distributed to corps as required. The advantages of this seem obvious. Lastly, and perhaps most important of all in extensive injuries, it is the duty of the medical officer who renders first aid to cleanse the wound and the surrounding parts with an antiseptic solution and after he has done this as thoroughly as circumstances permit to apply the first field dressing. These measures aim at cleansing a recently infected wound and preventing further contamination from outside and is a much easier proceeding than if undertaken at any later period, for the micro-organisms are at the most merely *on* the wound.

But it may be said, How can these objects be successfully attained on active service? The answer is, every soldier carries a first field dressing and a water-bottle. These can in an emergency be improvised into antiseptic solution and dressing respectively. To make the solution I would suggest that we adopt a plan used by the Japanese and let each soldier carry his own antiseptic tabloids. If in each field dressing from three to six tabloids of perchloride of mercury were included the antiseptic is supplied without difficulty and without adding to the weight the soldier has to carry or without being in any other way objectionable or inconvenient. All that would be required would be to dissolve one or more of them in the soldier's water-bottle (failing any other receptacle), remove débris, rinse the wound, and wipe it dry with a pledget taken from the gamgee tissue of the first field dressing, and finally dress it with the remainder of the latter. This would be a feasible procedure in a large majority of cases. The patient after once being dressed may be placed in a stretcher, doolie, or ambulance wagon and allowed to remain in some convenient spot whilst others are receiving attention. A delay of a few hours in sending him back to the field hospital will be convenient to the medical staff and highly beneficial to the patient, who will be in the meantime, under the beneficial influence of opium, recovering from the shock. When he eventually arrives at a field hospital he will be in the best possible condition for undergoing an operation and may safely be anæsthetised to the full surgical extent if necessary. If on account of surgical considerations, lack of time, or military necessities the surgeon decides against operation, the patient stands the best chance of his wounds running an aseptic course, for the measures taken for the prevention of sepsis, if not very thorough, were at least undertaken at the best possible time—immediately after the injury. On removal of the first field dressing an aseptic wound would appear, in contradistinction to the freely suppurating wounds which I frequently saw on the operating table of a field hospital in South Africa when the first field dressing was removed.

In conclusion, I would summarise these remarks on the immediate treatment of extensive injuries on field service by emphasising the following points: 1. The immediate application of an antiseptic lotion to large wounds. 2. To provide the necessary antiseptic the addition of tabloids of perchloride of mercury to the first field dressing packet is suggested. 3. Following the first dressing a period of rest may be allowed which is highly convenient to the medical staff and conducive to the well being of the patient. 4. Removal by ambulance transport to field hospital where operation may be undertaken on a patient whose vital powers have largely recovered from the shock consequent on his wounds.

Jullundur, India.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A NOTE ON THE TREATMENT OF CHOLERA BY SALINE INJECTIONS.

By F. C. McCOMBIE, M.B. LOND.

I THINK it may be of interest to put on record the recent experiences of my partner, Dr. J. D. Gregorson, and myself with the saline treatment of cholera in a recent epidemic on one of the big tea gardens under our care. With the help of our able and energetic native helper, B. C. Dass, hospital assistant, we had a mortality of only 23·8 per cent. out of a total of 105 cases, although two subsequently died from dysentery and two from tetanus some time after complete recovery from cholera; another dying from tetanus on the fourth day has been included in our cholera mortality. Of the 25 deaths from cholera, seven patients died immediately after admission before saline solution could be given. Only the worst of the other cases were treated by injection, 73 in all, among whom the mortality was 26 per cent., which we think may be regarded as a very satisfactory result.

Our general method of treatment is as follows: On admission the patient gets hypodermically from one-sixth to one-fourth of a grain of morphine, followed by 20 minims of spirit of ether every four hours and perhaps digitalin according to the pulse. Also by the mouth we give ten grains of calomel and ten grains of bicarbonate of sodium in one dose, and then the following mixture every three hours: Carbolic acid, two minims; bicarbonate of sodium, ten grains; carbonate of bismuth, ten grains; aromatic spirit of ammonia, 15 minims; spirit of chloroform, ten minims; and peppermint water to make up one ounce. Hot-water bottles and friction to the extremities are also applied and the patient is allowed to drink freely of water slightly acidulated with twenty minims of sulphuric acid to a pint. Then if signs of reaction do not appear salt solution (60 grains to one pint of boiled water) at a temperature of from 105° to 110° F. is injected into the subcutaneous tissues over the axillæ, the breasts, and the epigastrium. As soon as the fluid ceases to flow readily into one place the needle is withdrawn and inserted into another, the swelling resulting from the injection being firmly rubbed to promote absorption. By this method we had no difficulty in getting large quantities absorbed; some of our cases had as much as nine pints and none less than two pints. The injection is continued until the pulse shows signs of improvement and at any sign of failure it is recommenced.

This method of procuring rapid and continuous absorption seems to be the important point in the treatment, and to the fact that a sufficient quantity of fluid has not always been introduced must be attributed the unsatisfactory results which have formerly been obtained by this treatment. Hence this communication is made simply to draw attention to a very valuable method which seems, owing to its non-efficient use, to be becoming neglected.

The apparatus in its simplest form consists of a douche-can suspended at a height of from one to two feet above the patient, joined by a length of rubber tubing (with a clip) to a medium-sized aspirating needle. With ordinary antiseptic precautions we had only a few cases of abscess following injection and unfortunately three of tetanus, but each of these had septic wounds elsewhere at the time which would have provided a suitable nidus for the bacillus tetani. One patient died on the fourth day after receiving his injection; he had sores due to scabies. One woman had ulcers on her leg and died three weeks after her cholera treatment, whilst the third, with an ulcer of the vulva, succumbed to lockjaw after 17 days. Furthermore, all these three cases took place in one of the primitive houses of grass and bamboo, of which our temporary isolation hospital was composed, in the middle of a stretch of grass land ordinarily used as a grazing ground. This house was burnt down and no more tetanus occurred.

Two of the cases were tried intravenously with the addition of ten minims of adrenalin chloride (1 in 1000) to the pint of salt solution. The immediate effect was marvellous, one patient rousing from a pulseless dying stage to absolute cheerful consciousness in half an hour. This man came in with dysentery and recovered. Three days later he was attacked with cholera, was treated with adrenalin as above, and improved, but got a relapse on the third day, which was treated by salt solution subcutaneously and left him very weak and exhausted and he gradually fell into a dull comatose condition and died on the eighth day after his first attack of cholera. The other case tried with adrenalin died also in a relapse. A third case treated with simple salt solution intravenously did not recover. Adrenalin was also tried in 10-minim doses by the mouth and the results were so good that we think it is worth further trial.

On another garden where cholera and choleraic diarrhœa are always endemic during the hot weather we had eight deaths out of 18 cases last year. This year, since the introduction of the saline treatment, we had 30 cases with only one death, while on a neighbouring tea garden where the saline treatment was not used nearly all the cases died, which we think is further proof of our point that the saline treatment of cholera when properly carried out is of the greatest value in this very fatal disease, the average mortality of which works out at about 50 per cent.

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A CASE OF MENINGEAL HÆMORRHAGE RESEMBLING HYSTERIA.

By HERBERT J. WALKER, M.R.C.S. ENG., L.R.C.P. LOND.

I WAS recently sent for in the evening to see a man who was said to be in a fit. The history told me by the messenger was to the effect that the man whilst in a public-house talking to some friends suddenly fell backwards into their arms and that they immediately laid him on the floor when he commenced to struggle violently. His home being close by they carried him to it and placed him on the bed but had great difficulty in doing so, as he struggled so much. When I saw the man he was lying on the bed being held down by two men. Thinking that the case was in all probability one of hysteria I told the men to leave the man alone. I then pressed on the patient's supraorbital nerves in order to try to bring him round, but he only struggled violently, never speaking a word and tried to get his head away. Still thinking it a case of hysteria, since there were no true convulsions as in epilepsy of cerebral hæmorrhage, I applied cold water to his head and the back of his neck without any good effect at all. Fearing that he might tumble off the bed, as it was difficult to hold him on, we placed him on the floor when he threw himself into all sorts of positions, rubbing his head along the floor, attempting to get up, then falling back again, but there were no true opisthotonic or orthotonic movements. His breathing all this time was quick and he foamed slightly at the mouth, this being due to the man blowing his breath out, very much in the same way as a hysterical patient does when he tries to simulate epilepsy. No blood came from the mouth, nor did any of his facial muscles appear to be paralysed or contracted. His pulse was full and fairly quick but nothing very abnormal. I next ordered him to be put back in bed and gave him a hypodermic injection of half a grain of morphine and had him strapped down to the bed, as he still struggled very much. About 20 minutes after giving him the morphine the struggles ceased, so I attempted to look at his pupils, but directly I touched him the struggles started again and all I could see was that the eyes were turned upwards, but after persevering I managed to see the pupils which were neither dilated nor contracted, but I could not test for the reaction

to light, the patient not keeping still for two minutes together. After being with the man for about two hours I left him strapped to the bed with two attendants to look after him and with instructions to call me if necessary, hoping that he would go to sleep. About three-quarters of an hour afterwards I was sent for and on my arrival found the man practically dead.

The necropsy showed that both lungs in their greater part were reddish and heavy and they exuded an enormous amount of frothy serum; the pleurae on both sides were filled with fluid. When the skull was opened the dura mater separated easily from the bone but was very thick and distended and when incised in the posterior part about a quart of fluid blood flowed out. I took the cerebrum out in the usual way, commencing at the anterior lobes, then cut through the pons Varolii, so leaving the tentorium cerebelli and the cerebellum intact, and discovered a tear in the superior longitudinal sinus where it terminates in the torcular Herophili. There was no blood under the tentorium, or in the ventricles of the cerebrum, or in the cerebellum, but the last looked flatter than usual. The liver was slightly enlarged but all the other organs appeared normal.

On further inquiry I ascertained that the man had been a heavy beer-drinker but that on the day of his death he had only had one and a half pints the whole day. He had complained of feeling unwell and his friends had noticed that he did not seem to be in his usual health. He was 36 years of age, well nourished, and had been a railway porter for 15 or 16 years.

The above case is of interest as it shows how a case of cerebral hæmorrhage may be mistaken for hysteria and also because I cannot find any account of cerebral hæmorrhage producing such violent struggling, or a case of cerebral hæmorrhage being produced by rupture of the superior longitudinal sinus without external violence. In this case there was no sickness or true convulsion but only struggling, the same as malingerers or hysterical patients indulge in. There was no cyanosis, stertorous breathing, or paralysis. The corneal reflex was markedly present, but there was no nystagmus or deviation of the eyes such as is often seen in cerebellar lesions, neither was there biting of the tongue. The hæmorrhage did not seem to extend much over the motor area but was situated chiefly over the tentorium cerebelli and occipital and parietal lobes. The movements in all the limbs seemed about equal. My opinion is that the man had been going about with double pleurisy and pneumonia, with the result that his cerebral sinuses had become engorged and finally ruptured.

Brighton.

NOTE ON AN ATYPICAL CASE OF CEREBRO-SPINAL MENINGITIS.

BY T. HUNTER, M.A., B.SC., M.B., B.CH. GLASG.,
CAPTAIN, I.M.S.; CIVIL SURGEON.

THE patient, an agricultural labourer, was sent to prison on Jan. 19th, 1906, and was admitted to the prison hospital on the evening of Feb. 8th complaining of slight fever. His temperature on admission was 99·4° F. When seen on the morning of the 9th the man had a normal temperature but he appeared to be unconscious and when an attempt was made to rouse him he could only be made to open his eyes and to move his mouth as if he were trying to talk. As examination revealed no sign of any disease the suspicion that he was malingering was raised. He was accordingly isolated and watched. After his removal, though his temperature rose again that night to 99·4°, he seemed to improve and he began to speak a little. On the 10th (the third day of illness) the temperature remained normal but on the 11th it again rose in the evening, though only to 99·2°. On the 12th the patient was much better. He talked quite readily, took his food with relish, and his morning temperature was normal; but on this day the evening temperature rose to 99° and in the evening there was noticed for the first time slight rigidity of the neck. On the 13th the temperature was normal all day, on the 14th it was normal in the morning and 100° in the evening, and on the 15th it remained normal. Unfortunately, no record was taken of the pulse. No organic mischief could yet be discovered but the rigidity of the neck was becoming more pronounced and the patient had sunk into a stuporose condition from which he could be recalled only by being addressed in a loud voice and he lay curled up in bed on one or other side. There was no longer any doubt that he was profoundly ill. On the 16th the right cornea became affected and there was the beginning of bed-sores over both buttocks. It was thought too that there was some paresis of both lower limbs but the man's condition of stupor made it difficult to make certain of this. On the 17th the right cornea was a large sloughy ulcer and the patient was comatose. He died on the 18th, the tenth day of his disease, at 3.30 A.M. Throughout his illness no eruption of any kind was noticed; there were no vomiting and no complaint of pain, no tremor, and, with the exception of the rigidity of the neck, no spasm. Only on four occasions did the temperature rise above 99° and the maximum recorded was 100°. During the last three days the temperature remained normal.

A post-mortem examination was made nine hours after death. The dura mater was intensely congested. All over the cerebral hemispheres in the arachnoid were patches of thick greenish pus. The upper and back part of the cerebellum was covered with the same material. At the base between the optic commissure and the foramen magnum was another collection. The medulla and the whole of the cord were covered with thick greenish pus. The right eye was disorganised. The spleen was slightly enlarged. The other organs were normal.

The records of the prison back to the year 1898 show no previous case of cerebro-spinal meningitis.

Rae Bareli, Oudh, India.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Report upon 282 Operations for Non-malignant Diseases of the Stomach.

A MEETING of this society was held on May 22nd, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Mr. B. G. A. MOYNIHAN read a Report upon 282 Operations for Non-malignant Diseases of the Stomach. He said that up to the end of 1905 he had operated upon 282 cases of non-malignant diseases of the stomach. For purposes of analysis the cases had been arranged in four groups: 1. Perforating ulcer of the stomach and duodenum. 2. Cases in which persistent hæmorrhage was the cause of immediate operation. 3. Chronic ulcer in its various forms. Dilatation of the stomach. 4. Hour-glass stomach. The cases in each group were then analysed in detail. In Group 1 (perforating ulcer) there were 24 cases with 15 recoveries and nine deaths. There were 16 cases of ulcer of the stomach and eight cases of ulcer of the duodenum. In one there was a perforation of the stomach and 13 days later a perforation of the duodenum. In all the cases there was a previous history of gastric or duodenal ulceration. Three of the cases showed the type of perforation called "subacute." The perforation was on the anterior surface of the stomach in 14 cases and on the posterior surface in two cases. In the 24 cases there were seven in which an immediate or subsequent gastro-enterostomy was necessary. In Group 2, the cases in which acute hæmorrhage was the cause of immediate operation, there were 27 cases with three deaths. The determining cause of operation was hæmorrhage, repeated in increasing attacks at decreasing intervals. In Group 3, chronic ulcer in its various forms, there were 209 operations with two deaths; 111 operations had been consecutively performed without a death. The cases were analysed to show the frequency of the occurrence of the chief symptoms and to show the after-results. In Group 4, hour-glass stomach, there were 22 cases with three deaths. There was one case of trifid stomach in this series and one case of hour-glass stomach and hour-glass duodenum. The frequency with which double operations were necessary was referred to; this was owing to the fact that there was not seldom a narrowing at the pylorus as well as in the body of the stomach. In all there were 282 cases with 18 deaths.

Mr. HERBERT J. PATERSON said that one most valuable point had been brought out in the paper—viz., the steadily diminishing mortality in the operations of gastro-enterostomy—so that now the mortality was little more

than 1 per cent., or about the same as that of appendicectomy performed during the quiescent stage. He referred to the difficulty of following up the after-results of cases in which gastric operations had been performed. Mr. Moynihan had been most fortunate in following up his cases and he had shown that the after-results in a very large proportion of his cases were most satisfactory. In cases of gastric perforation a very large percentage gave a history pointing to previous gastric ulcer but it was by no means so common to get a history of previous hæmatemesis. The gastric ulcer was situated on the posterior wall of the stomach in from 12 to 14 per cent. of cases. This fact was of great importance, for it showed that the ulcer was in the majority of cases easily accessible to operation. He said that the operation of gastro-enterostomy was of the greatest value in cases of gastric ulcer and if performed more frequently would considerably diminish the mortality from perforation of gastric ulcer. Murphy's button had proved unsatisfactory in cases of gastro-enterostomy owing to the liability for the opening to close. He considered pyloroplasty also an unsatisfactory operation owing to the frequent tendency to relapse. In cases of hyperchlorhydria the operation of gastro-enterostomy did not give satisfactory results and in neurotic patients no operation should be performed.

Dr. W. HALE WHITE referred to those cases in which large quantities of blood were vomited and in which, either at the time of operation or after death, no ulceration was found. He had collected 27 such cases. This form of hæmatemesis occurred chiefly in young women and was probably due to a general oozing from the mucous membrane of the stomach similar to that which occurred from the mucous membrane of the uterus. Out of 10,000 necropsies at Guy's Hospital there had been only two deaths from hæmatemesis without any ulceration; it was therefore probable, considering the number of such cases in the wards, that the large majority of such patients got well. The slight mortality from hæmatemesis if left alone, and the high mortality if operation was performed during an attack, indicated that no operation should be performed during the time that hæmatemesis was taking place. He had seen several cases in which the bleeding had recurred after the operation.

Mr. FREDERIC S. EVE concurred with Dr. Hale White's views and said that the greatest difficulty arose in the correct diagnosis in cases of hæmatemesis. The effect of medical treatment before operation was therefore of great importance. He had not infrequently operated in cases and had found no ulcer—even in those in which the typical symptoms of gastric ulcer were present. In one case of a girl, aged 23 years, who had had two previous attacks of hæmatemesis with frequent vomiting and pain in the epigastrium an hour after food, he had opened the stomach and had found no ulcer. A gastro-enterostomy was performed and the patient was completely relieved. He considered it advisable to open the stomach on the posterior surface and carefully to explore the inner surface. He thought that the breaking down of the adhesion in cases in which the ulcer of the stomach was adherent to the liver or the diaphragm was a procedure attended with considerable risk, for it was impossible to say how deeply the ulceration had extended.

Dr. F. H. HAWKINS referred to the rarity of death in cases of severe hæmatemesis. During a period of several years he was unable to recall any death which had been due to this cause. He therefore thought it most undesirable to operate on such cases during the acute attack.

Mr. MOYNIHAN, in reply, said that he thought the mortality from hæmorrhage from the stomach during the acute stage was greater than had been computed, though he agreed that it was inadvisable to operate during the acute attack. The recurrence of hæmorrhage in decreasing frequency and with increasing quantity made it imperative to operate. He agreed with Mr. Paterson that gastro-enterostomy should be done as an adjunct to the suturing of a gastric ulcer.

PATHOLOGICAL SOCIETY OF LONDON.

Chorion-epitheliomata of Congenital Origin.

A MEETING of this society was held on May 15th, Dr. P. H. PYE SMITH, the President, being in the chair.

Dr. VICTOR BONNEY read a paper on Chorion-epithelioma of Congenital Origin. He said that since the publication of Teacher's monograph it was generally accepted here, as on the continent, that the chorion-epithelioma associated with pregnancy arose from the trophic ectoderm of the embryo. A small number of tumours histologically identical with them had been described, not only in women, in the undoubted absence of pregnancy, but also in men. Schlagenhaufer had first suggested that these neoplasms originated from chorionic elements present in pre-existing teratomata. Dr. Bonney briefly reviewed the histological features peculiar to the chorion-epithelioma of pregnancy and compared them with those found in a tumour of the great omentum of a man aged 69 years. The patient had been under the care of Dr. Karl Fürth at the German Hospital and died with symptoms of malignant disease of the abdomen. Dr. Bonney had investigated the primary tumour and metastases, which showed a structure macroscopically and microscopically identical with the chorion-epithelioma of pregnancy. He also described two tumours primary in the testicle showing a similar structure. The literature and reported cases were then reviewed, these latter being grouped under three heads: (1) those occurring in the testicle—18 cases; (2) those occurring in the ovary—10 cases; and those occurring in other situations—seven cases. By the kindness of several continental observers he was able to show to the Fellows slides from many of these cases. The histological identity between them and the recognised chorion-epithelioma was undoubted and extended even to the grouping (attributable to Marchand) into typical and atypical varieties. The large majority of these tumours had arisen in connexion with teratomata. Dr. Bonney after excepting cases of dichotomy and setting aside for various reasons many of the theories of the genesis of teratomata, considered that they were all of seclusional origin and had arisen from two sources. 1. *Origin from abnormal embryonic cell seclusions formed at various periods during the development of the ovum.*—Such seclusions might represent (*a*) an undifferentiated blastomere; (*b*) an element of one of the layers of the blastocyst; and (*c*) an element of one of the specialised derivatives of the layers of the blastocyst. In the first two cases elements of the trophic ectoderm might undoubtedly form a part of the teratoma, whilst in the third it was theoretically possible that a chorion-epithelioma might constitute the entire tumour. 2. *Origin from the cells derived from the germinal epithelium.* Dr. Bonney discussed the development of these cells. The extraordinary variety of ovarian tumours and the presence in them of types of epithelium, having no ectodermic or entodermic prototype in the normal organ, together with the great mutability of the granulosa cells and the evolution of the fœtus from the cytoplasm of the ovum, were in keeping with the known facts concerning their development and entitled these cells in the female to be regarded as normal seclusions of elements of the undifferentiated blastocyst. In the testicle, owing to the doubt attaching to the origin of the cells lining the tubules of the mediastinum testis, the case was not so clear. Nevertheless, the evidence was here also largely in favour of the view he advocated. The teratomata might therefore be said to originate: (1) from the development of an abnormal embryonic seclusion; and (2) from the abnormal development of a normal embryonic seclusion. A teratoma derived from either of these sources might contain elements of the trophic ectoderm and hence gave rise to a chorion-epithelioma. Dr. Bonney's remarks were illustrated with the epidiascope by drawings and slides.

Dr. J. H. TEACHER (Glasgow) showed microscopical sections of Chorion-epithelioma, Malignant Hydatidiform Mole, and Chorion-epithelioma of Teratomatous Origin, and also gave an epidiascope demonstration illustrating these subjects. He was pleased to hear that the members of the society believed that the view that chorion-epithelioma or deciduoma malignum and vesicular mole were to be regarded as developed from the chorionic epithelium or trophoblast no longer required defence. The fœtal epiblastic nature of these structures also appeared to be very generally accepted. The histological identity of the tumour shown by Dr. Bonney and of a number of others of which sections were shown with chorion-epithelioma would appear to be beyond question. Moreover, they exhibited also the naked-eye characteristics of the true chorion-epithelioma. In regard to the nature and origin of these tumours occurring apart from pregnancy and even in males, there appeared to him to be considerable room for difference of opinion. The point which was clearest was that those tumours which had been most suitable for

thorough investigation and had been carefully investigated had all proved to be teratomata. This being the case it was apparent that the specific nature of the true chorion-epithelioma of pregnancy was not called in question by these discoveries of identical structures apart from pregnancy. Regarding the precise nature of the chorion-epithelioma-like growths of teratoma Dr. Teacher formerly regarded the view of Schlagenhaufer that they represented actual trophoblast (chorionic epithelium) of the teratoma as the most probable explanation of the majority of the cases and the evidence that in certain cases a direct continuity had been traced between the chorion-epithelioma-like tissue and tubules lined by columnar epithelium as being by no means conclusive—as, indeed, Marchand admitted. The more recent investigations, especially those of Pick, appear, however, to demonstrate an intimate association of chorion-epitheliomatous with epidermal and neuro-epithelial elements which suggested a common origin. To explain this association the theory had been advocated by Marchand, Risil, and Pick that they were all alike derived from the primitive epiblastic layer of the teratoma which had differentiated in different directions in different parts—one becoming chorion-epitheliomatous, another epidermal, and another nervous tissue. At the same time there was no inherent improbability that trophoblast, or even actual fœtal membranes, should be present in a teratoma, and the original theory of Schlagenhaufer would suffice to explain some of these cases, although the more comprehensive theory would be necessary to explain the others. As to the origin of teratomata Dr. Teacher found no reason to disagree with Dr. Bonney.

Mr. H. T. HICKS showed a specimen which was removed from a man, aged 30 years, who appeared to be in a good state of health. Nine months before the operation the patient noticed that the right testicle was enlarged. At first a diagnosis of hæmatocele was made. The tumour steadily increased in size in spite of treatment and during the last two or three months it had grown more rapidly. There was very little pain other than a dragging sensation caused by the weight of the tumour. On examination the organ was not tender and testicular sensation was unimpaired. There was no thickening along the cord. The tumour was oval in shape, smooth on the surface, and of the size of a turkey's egg. Mr. W. Arbuthnot Lane, who operated, looked upon the case as malignant and removed the tumour. The left testicle was apparently healthy. The patient was seen three months after the operation and he was quite well and had returned to work. The main part of the growth had affected the testicle proper but the epididymis was also infiltrated. The growth was well encapsuled by a thick tunica albuginea. The matrix of the tumour was made up of tough fibrous material, in which were seen numerous small rounded cystic spaces. In the centre of the tumour was a soft hæmorrhagic patch. The multiple cystic appearance of the tumour, together with the patches of hæmorrhagic necrosis, was rather characteristic of these growths. The structure of the growth varied greatly in different places. Sections taken from the periphery resembled a soft carcinoma of the testicle in which dilated tubules could be seen. The cells were spheroidal in shape and here and there could be seen bundles of fibrous muscular tissue. The growth was much less necrotic at the periphery than towards the centre. Sections taken through or near the hæmorrhagic area showed quite another picture. Here the tissue was composed of large quantities of wavy, fibrous, and muscular tissue, and, as was common with this type of growth, large areas of fibrin and hæmorrhagic necrosis could be seen. Around these fibrin patches the growth resembled chorion-epithelioma, both in the wavy texture of the growth and in the conformation of its cells. Some of the cells were rounded and slightly granular, with clearly defined nuclei, and might be taken to represent Langerhans's cells. Multinuclear plasmodial masses of syncytium of varying size and shape could be seen associated with these big rounded cells. The cystic spaces throughout the tumour were lined with columnar epithelium. The structure of these tumours of the testicle was so like that seen in chorion-epithelioma of the uterus that it must be agreed that there was considerable evidence that they might be derived from some trophoblastic source and thus might be congenital in origin.

Dr. J. M. BERNSTEIN showed specimens from two cases of Tumours resembling Chorion-epithelioma occurring in the Testicle. The specimens were from the bodies of men, aged 24 and 29 years respectively. They consisted in each case of a unilateral sarcocele and secondary nodules in the lungs with in one case the liver. The growths were characterised by great tendency to hæmorrhage and degeneration. Microscopically they were almost identical with chorion-epitheliomata, there being present round to oval cells, multinucleated plasmodial masses which tended to proliferate into blood sinuses and capillaries comparable respectively with the cells of Langhans and the syncytium. There was an appearance of hæmangio-endotheliomata. There was no evidence of teratomatous structure or chorionic villi.

Dr. B. H. SPILSBURY showed a Malignant Teratoma of the Testis removed from a man, aged 28 years. The patient complained of painful swelling of the organ for eight weeks before removal. The other testicle had been removed ten years previously, was only partially descended, and showed no special pathological characters. Since the removal the patient had married and had had two children. The naked-eye appearances of the tumour were those of a cystic tumour with a portion of the compressed and atrophied testis on one side; small hæmorrhagic areas were scattered through the tumour mass. Microscopically the tumour showed the following characters. The cysts were lined by simple columnar epithelium; there were masses of rapidly growing carcinoma; also connective tissue with in places myxomatous degeneration and in others sarcomatous characters. In only a few places were syncytial masses having very intimate relation to blood sinuses, of which they formed the walls, projecting into the lumen of these vessels; their nuclei were large and vesicular and their protoplasm was granular. These masses were only present in very small numbers. No element resembling the cells of Langhans layer was found.

Mr. T. W. P. LAWRENCE exhibited a specimen of Chorion-epithelioma of the Testis. The tumour measured 11 centimetres by six centimetres and was of ovoidal shape and somewhat lobulated. Under the microscope all parts of the growth showed extensive areas of necrotic tissue and blood extravasation. Areas which had not undergone necrosis presented a carcinoma structure and the blood spaces were in most cases bounded by a layer of unaltered endothelium external to which was a thick stratum of large, closely placed, polyhedral cells with deeply staining protoplasm and nuclei. Scattered among these cells were others of larger size, having two or three nuclei. In some parts the endothelium had become destroyed and in these situations the protoplasm of subjacent cells had run together to form giant cells or syncytial masses which protruded into the lumen of the blood spaces. In many parts of the growth there were large multinucleated plasmodial masses intermingled with smaller cells and, as with the former cell masses, associated with the vascular spaces; the protoplasm of some of these contained vacuoles or presented a reticulated character. In parts of the growth there were tubular spaces lined with a single layer of cubical cells with clear protoplasm and distinct contours; these spaces opened out in places into wider cleft-like spaces in which the lining epithelium exhibited characters approaching those of the polyhedral cells, but no direct continuity between cell masses composed of elements of the latter kind was traced. Sparsely scattered through the connective tissue of the growth were found small areas of myxomatous tissue and cartilage.

Mr. S. G. SHATTOCK said that the view put forward by Dr. Bonney did not explain why the ovary and testes were so frequently the seat of teratomata. The view which he had held was that a superfœtation took place and that teratomata arose from an actual process of impregnation during embryonic life.

Mr. W. SAMPSON HANDLEY said that the most striking feature of syncytium was that it generally occurred in intimate proximity to the blood. This was true not only in the placenta and in chorion-epithelioma but also when it occurred in ordinary carcinoma, as in the case described by Dr. Spilsbury. The formation of syncytium appeared to be a frequent event when the cells of an ordinary carcinoma obtained access to the blood stream. M. B. Schmidt[1] in numerous cases found syncytia in cancerous emboli of the small arteries of the lungs secondary to abdominal carcinoma. His own work on dissemination and a study of Schmidt's cases showed that invasion of the blood stream by carcinoma cells rarely led to the formation of visible metastases and that the embolic theory of dissemination was only true for ordinary carcinoma in exceptional

[1] M. B. Schmidt: Die Verbreitungswege der Karzinome, Jena, 1903.

cases. Probably, therefore, the view of Peters and of Berkeley and Bonney applied not only to chorion-epithelioma but to carcinoma in general. The formation of syncytium was the first stage in the destruction by the blood of any actively proliferating epithelium lying in the blood-stream. Consistently with this view Teacher had shown that in chorion-epithelioma spontaneous cure was relatively common, while in carcinomata which spread by the lymphatics it was extremely rare.

Dr. BONNEY in reply contested Mr. Shattock's view, for such a view necessitated the sequestration of the spermatozoon for several months before it was possible for it to impregnate the germinal cells of the ovary.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

The Kinematograph in Medicine.

A SPECIAL meeting of this society was held on May 16th in the hall of the Royal College of Physicians of Edinburgh, Dr. J. O. AFFLECK, the President, being in the chair.

Dr. WALTER G. CHASE (Harvard, Boston, U.S.A.) delivered an address upon the Kinematograph in Medicine. His address was followed by the exhibition by means of the kinematograph of various phases of pathological motion, consisting of several epileptic attacks of the Jacksonian, grand mal and status types, also athetosis, chorea, rhythmic idiocy, and gaits of the hemiplegic, spastic, and infantile paralytic types. 3000 feet of film were used, making a continuous run of 50 minutes. Dr. Chase's preparatory remarks were substantially as follows: "Photography and its allied branches play such an important part in medical science to-day that we hardly realise their value without a comparison of the illustrations of medical literature of a quarter of a century ago with those of to-day. It was then that Muybridge first startled the scientific world with his reproductions of animal locomotion, and now through a series of improvements, notably that of the celluloid film by Eastman, we can accurately reproduce motion. Some months ago it occurred to me that a series of films illustrative of the various phases of pathological motion might be of great advantage in teaching the student, but I afterwards found in showing these before some of our larger scientific societies that the practitioner and the surgeon were much interested. I do not claim originality in the idea of thus using the kinematograph but I do claim that I have first faithfully reproduced the stages of epileptic attack so that you may study it with such minuteness that not only the order of involvement of the muscles but even the saliva pouring from the mouth will be noticed, and as in the case of double nystagmus, to be shown later, the perfect motion of the eyes may be seen. Many of you who have practised for years may not have had an opportunity to study so well a case of status epilepticus as the one I shall show you later. Regarding the cases of epileptic seizures to be shown I must tell you that for these I am indebted to Dr. W. P. Spratling of the Craig Colony for Epileptics who placed the resources of that institution at my disposal last summer. The pictures were all taken by myself personally as I had made myself acquainted with kinematography in the laboratories of the American Biograph Company of New York. The most difficult pathological movement to reproduce is that of an epileptic seizure, for the reason that it takes several minutes to set up and focus a biographic camera, and your patient is not always sufficiently obliging as to have his seizure out of doors in an available place and also at a time when the sun is at its best, for an outdoor light or a room with powerful electric lights especially arranged is absolutely necessary to good results. The method may be interesting. Realising that it was impossible to set up the camera after the seizure had commenced, we had some 125 male patients from the infirmary assembled in a convenient spot out of doors on a warm summer day. The clothes were removed and the patients covered with blankets, so that, a seizure occurring, the blanket could be readily dropped and the subject within a very few seconds placed in the range of the camera. For the background I had a large dark-brown screen made and later a black one. The points where the head and feet of the patient were to be placed were carefully marked and by this means the patient placed in focus, a microscopic focus on a normal subject having been previously made. Now what is the practical application of this work? I answer 'educational' both for student and physician. You who teach have often realised under what disadvantages you are placed in not being able to place the living example before your students until a case may appear perhaps weeks later in the hospital wards and you also know the value of instruction which appeals to the eye. Here you have as you will see a ready class-room method of immediately showing your students the difference between the motion of the epileptic in seizure and the choreic or hysterical subject, also the minute differentiation of the spastic, the hemiplegic, and the gait of the infantile paralytic. For the illustration of text-books this record is invaluable. For example, on the 1500 feet of film showing epileptic attacks there are 22,500 minute pictures of attitudes assumed during the convulsions. Any one of these may be enlarged and reproduced on printing-blocks. Again, you have all seen the apparatus for exhibiting moving pictures into which you put a penny and turn the crank. I have had one made for myself for exhibiting these pictures, and by having these reels of various types the professor can show subjects to the class and the neurologist can study the phases of motion. The curator of the Army and Navy Medical Museum of Washington, U.S.A., has asked me to furnish him with reels of these subjects so that visitors to the museum may see these rare cases. I have also had a run of prints made larger than the original picture and by selecting each one which shows a slight difference from the preceding and mounting in albums I can give you a pictorial illustration of epileptic seizures. I am now making up some five of these albums to present to different medical libraries of the world. The time is not far distant when every medical seat of learning will have a kinematograph outfit and after the negative is once secured positive films may be made and an interchange made between the various medical colleges, thus enabling the student and the professor to study the motion of diseases other than those of his own country and perpetuating rare cases which may only be seen at intervals of years. It is an expensive line of work and I only hope that the time and money which I have devoted to this may be the means of inculcating the doctrine of the kinematograph as a valuable adjunct of medical education."

On May 18th Dr. Chase gave a demonstration before nearly 600 medical students in Dr. Schäfer's class-room in the University buildings.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on May 4th, Dr. J. Lindsay Steven, the President, being in the chair.—Dr. J. Walker Downie showed a preparation from a Sarcoma of the Temporal Dura Mater which simulated suppurative mastoiditis. At the operation the bone was found eroded by the tumour which was traced to its origin at the dura mater. Stereoscopic photographs were shown.—Dr. Alexander Napier gave the clinical history of a case of Enteric Fever in which the symptoms were mainly those of acute nephritis. The illness commenced with "cold." In three days a measly eruption appeared on the face and arms. The patient then developed hæmaturia which lasted two days. This recurred in a fortnight and he sought medical advice. The symptoms were those of acute nephritis but the temperature was 105° F. and there were no anasarca, diarrhœa, rose spots, or enlargement of the spleen. The urine was scanty and muddy, with copious coffee-ground sediment, abundant albumin and blood reaction, and casts in great number and variety, and contained a large bacillus which was proved to be an involution form of the bacillus typhosus. The diagnosis of enteric fever was corroborated by the fact that two of the patient's attendants caught the disease, which in their case ran a normal course. The bacilli were detected in the urine four months from the onset of illness. The case was probably a catarrhal nephritis on which the enteric element was grafted.—Dr. John Brownlee (for Dr. E. S. Chapman) gave an account of six cases of Enteric Fever in which pyelitis was a complication. The pyelitis developed after the febrile period. The altered colour of the urine was the first symptom and in a few days pus appeared.—Dr. R. M. Buchanan showed film preparations and cultures from the urine in Dr. Napier's case. A bacillus was found in the urine having rounded, slightly tapering, deeply stained

ends, and a clear ovoid spore-like area in the centre. It appeared frequently in filaments and small clumps. Culture tests resulted in profuse, almost pure, growths of a bacillus which subculture and agglutination tests proved to be the bacillus typhosus. The first sample of urine submitted for bacteriological examination in the Glasgow public health laboratory was on August 21st (probably six weeks after the onset of the illness) and the bacillus typhosus was still present in large number on Oct. 10th. It had disappeared, however, at the date of the next examination, which was on Nov. 30th. Cultures were also shown from Dr. Brownlee's case, in which the bacillus typhosus was isolated from the pelvis of the right kidney and from the gall-bladder.—Dr. Joseph N. Glaister read the clinical history of two cases of Epidemic Cerebro-spinal Meningitis. The disease set in with symptoms suggesting poisoning and this diagnosis seemed to be strengthened by the fact that the second case became ill just one day after the first. The symptoms were persistent vomiting and great depression and weakness. Restlessness alternated with periods of coma with dilated pupils. The temperature rose from 100° to 102° and 103° F. in a few days and the pulse became weaker and more rapid. The tongue was dry and furred. The respirations were superficial and at times Cheyne-Stokes in character. Retraction of the head and in the second case a tetanic condition of the jaw muscles were prominent features. The decubitus was lateral, with the thighs flexed and the head retracted. On the third day a rash appeared consisting of raised purple petechiæ. In the first case there were three on the upper part of the abdomen and one on the right ankle. In the second case there were 12 on the chest and neck and a few on the inner aspect of the thighs and ankles. The first patient, aged three years, died on the eighteenth, and the second, aged eight years, on the sixth day of illness.—Dr. Buchanan showed microscopical and cultural specimens of the Diplococcus Intracellularis Meningitidis obtained post mortem by lumbar puncture. In the film preparations a leucocyte here and there and sometimes groups of leucocytes showed the diplococcus in greater or lesser number. Only rarely was the organism observed outside the cells. The size and the intensity of staining of individual cocci varied greatly and their close resemblance in form to the gonococcus was manifest. The best results in culture were obtained on Loeffler's serum, although satisfactory growths were also shown on ordinary serum and glycerine agar.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on May 10th, Dr. Russell Coombe, Vice-President, being in the chair.—Mr. G. L. Thornton read a paper to introduce a discussion on the Diagnosis and Treatment of Diphtheria. He said that it was not until little more than 20 years ago that bacteriology had been the means of separating diphtheria from a host of diseases accompanied with angina. He drew attention to the uncertainty which still exists in the minds of many bacteriologists as to the exact relationship between Hofmann's bacillus and the bacillus diphtheriæ. In this connexion he quoted from a paper by M. Roussel and M. Job who, writing in the *Revue de Médecine* in 1905, showed how the shorter forms of the bacillus diphtheriæ tended to approach Hofmann's bacillus in cultural, staining, and inoculation characters. After some remarks on measles and scarlet fever he mentioned follicular tonsillitis as the disease amongst all others in which confusion with diphtheria was likely to be made. He also referred to Professor H. Vincent's article published in THE LANCET of May 13th, 1905, on two forms of angina in which a spirillum and a fusiform bacillus were the determining agents. This disease, Mr. Thornton said, might easily be confounded with diphtheria. In dealing with the treatment of diphtheria he raised the question as to whether the best results could not be obtained with small or average doses of antitoxin repeated, if necessary, without resorting to the large initial doses recommended by some authorities. His own experience, gained in a severe epidemic in 1899 and 1900, had not proved to him the necessity for these large injections. Although little had been written on the exact untoward symptoms arising from these injections the risk appeared to be acknowledged and he here referred to a leading article which appeared in THE LANCET of Nov. 4th, 1905. Mr. Thornton advocated the use of local applications to the throat, sprays, and nasal syringing in all cases, bearing in mind that there was often a mixed infection. From his own experience he had found the glycerinum acidi borici an excellent application and preferable to stronger solutions which tended to keep up a raw and irritable state of the mucous membrane, thereby inviting fresh infection. A spray composed of lime water, benzoate of soda, and phenol had been used in the majority of his cases and those with laryngeal symptoms had undoubtedly benefited by it. Internally he gave as a routine the perchloride of iron with quinine and glycerine. In his later cases he had imposed complete rest in bed for the first month, patients being forbidden a pillow, and he felt sure that fatal cardiac symptoms would be far less frequent if this rule was generally adopted. He alluded to the great decline in laryngeal and pulmonary complications since the advent of antitoxin treatment and to the comparatively few cases in which tracheotomy was now called for. In touching on cardiac complications, he referred to Dr. Charles Bolton's division of diphtheria into two stages—the acute and the convalescent, described in THE LANCET of Feb. 4th, 1905, and mentioned a case of his own wherein the cardiac symptoms followed Dr. Bolton's description very faithfully. In peripheral nerve affections he considered that iron, strychnine, arsenic, and quinine were the best drugs at our disposal. He finished with a few remarks on prophylaxis, urging immediate isolation in suspicious cases of sore-throat and more especially in children. If diphtheria was strongly suspected antitoxin should be injected at once. An isolation period of six weeks should be aimed at in all cases. —In the discussion which followed Dr. Russell Coombe, Dr. Reginald V. Solly, Dr. Ransom Pickard, Dr. Brennan Dyball, and Dr. John D. Harris took part.—Dr. Solly showed sections exhibiting the position of diphtheria bacilli in false membrane on the tonsil and in false membrane from the trachea and also bacilli which had been constantly present in a throat for many months. There was some doubt whether these were true or pseudo bacilli.—Mr. Thornton showed a specimen of diphtheritic membrane forming a complete cast of the naso-pharynx.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—A meeting of this society was held on May 14th, Professor R. Muir, the President, being in the chair.—Dr. J. K. Dalziel showed the Pelvic Organs of a case of Extroversion of the Bladder, in which he had transplanted the ureters into the rectum. The operation was performed by opening the peritoneum and at the same time some enlarged glands were removed. The child did well for some time and a condition of prolapse which existed disappeared after the operation. The fatal issue was altogether unexpected and was due to intestinal obstruction, probably produced by a band of adhesions arising subsequently to the removal of the enlarged glands.—Dr. J. C. Renton showed specimens from two cases of Malignant Disease of the arm which necessitated amputation of the arms and scapulæ. In the first case an epitheliomatous ulcer was excised some time previously, with a subsequent recurrence which was more of a cellular type and the appearances of its peripheral part resembled a sarcomatous growth. The later recurrence for which the arm and scapula were removed was shown to be an epithelioma similar to the primary lesion. The second case was an extensive tumour of the upper arm and had the characters of a mixed-celled sarcoma.—Dr. G. A. Allan and Dr. J. S. Dunn communicated notes of a case of Cerebro-spinal Meningitis. The patient was 11 years of age and although a slight illness with vague headaches had been complained of for about a month first became seriously ill on the day of admission to hospital, was unconscious, and had frequent convulsions. There was no initial sickness. Kernig's sign was not marked but the other symptoms of cerebro-spinal meningitis were established. Lumbar puncture was performed during life and the diagnosis was confirmed by the presence of the meningococcus in films and subsequent cultures. The child died about 34 hours from the onset of the illness and at the necropsy cerebro-spinal meningitis, early lobar pneumonia, and enlarged abdominal glands were found.—Dr. W. B. Inglis Pollock showed microscopical specimens from a case of Sarcoma of the Choroid which presented several interesting features. The chief pathological interest was an extensive and peculiarly situated necrosis in the tumour and the various theories of its causation were discussed.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at Leeds on May 18th, Mr. R. Favell (Sheffield), the President, being in the chair.—Dr. J. B. Hellier (Leeds) showed the

Uterus, Placenta, and Membranes of a woman who died undelivered from hæmorrhage from a varicose vein in the vulva; also two specimens of Blighted Ova retained in utero until term, one of them together with a living twin.—Dr. W. K. Walls described a case of very early Cancer of the Cervix, in which a mass of epitheliomatous new growth, quite distinct from the cervical growth, occupied the posterior uterine wall and attached it firmly to the anterior rectal wall. The growth in the corpus was only found during vaginal hysterectomy.—The President mentioned a case in which a young woman aborted at the sixth month and was then found to have a fibroid in the posterior wall of the uterus and cystic disease of both ovaries. There was profuse hæmorrhage and the organs were removed by the abdominal route six weeks after the miscarriage. The fibroid was a typical example of red degeneration.—Dr. W. Walter (Manchester) showed a Fibromyoma removed from a patient, aged 60 years, on account of hæmorrhage beginning ten years after the menopause. Microscopic examination showed angeiomatous changes in the fibroid.—Dr. D. Lloyd Roberts (Manchester) showed the Bladder, Ureters, and Kidneys of a woman whose main symptom was pelvic pain. A quantity of pus had been found in the left kidney which was finally removed. The patient died ten days later with suppression of urine and it was then found that the right kidney contained a mass of calculi which destroyed its function.—Sir W. J. Sinclair (Manchester) showed specimens of the Sea Tangle (Laminaria) from Iona, with tents manufactured from it by the crofters of that island, these tents being impregnated with mercuric perchloride before desiccation. There were small tents for dilating the unimpregnated uterus and large ones for use during gestation. Rods of laminaria could also be used instead of the usual bougie for the induction of premature labour. He advocated the use of tents on account of their superiority over rapid mechanical dilators, pointing out that their evil reputation as sources of infection was acquired in the days before antiseptics were known. He also urged the support of British industry by the use of tents made in the western islands close to the source of the material.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on May 3rd, Dr. A. Newsholme, the President, being in the chair.—Dr. E. F. Maynard showed the following cases: 1. A man who a year ago fell and dislocated his left shoulder and severely bruised his back. He now has wasting of both deltoids and ulnar paresis and anæsthesia in the left hand and forearm. 2. A letter-sorter with wasting and fibrillary twitching of the right deltoid and scapular muscles. The question of occupation neurosis had been considered but Dr. Maynard thought that the case was one of progressive muscular atrophy. 3. A girl, aged 20 years, with well-marked pseudo-hypertrophic paralysis of four years' duration. She had hypertrophy of the gastrocnemii, glutei, deltoids, infraspinati, and tongue, and atrophy of the extensors of the leg and back, of the rhomboids, supraspinatus, and latissimus dorsi. Her brother was in an advanced stage of the same disease.—Dr. W. C. Chaffey showed a case of Congenital Spastic Paraplegia.—Dr. E. Hobhouse showed an old man with Peripheral Neuritis in whom there was no history of alcohol; also a man, aged 30 years, in whom he had diagnosed a small Aneurysm of the Third Part of the Aorta.—Dr. Walter Broadbent showed a woman with Aortic Stenosis and Regurgitation and Mitral Stenosis and Regurgitation.—Dr. F. G. Bushnell demonstrated the further Anatomy of the Siamese twins shown previously, the most interesting anomaly being that the duodenum of each child led into a common jejunum, at the end of which there was again a division into a separate ileum and colon for each child.—He also read a paper on Opsonins and their Value and Dr. A. W. Williams demonstrated the process of taking the opsonic index.

WINDSOR AND DISTRICT MEDICAL SOCIETY.—A meeting of this society was held on April 25th, Mr. W. B. Holderness, the President, being in the chair.—Dr. H. Batty Shaw read a paper entitled "Common Errors in the Diagnosis of Lung Diseases." He first drew attention to errors arising from haste in the cross-questioning of a patient suffering from lung disease. Patients frequently complained that they were suffering from asthma when their symptoms were in reality those of tuberculosis of the lungs, or aneurysm pressing on the trachea or a bronchus, or mitral stenosis, or some other condition quite different from asthma. Pleurisy had been diagnosed even by medical practitioners when the so-called friction sounds heard in the axilla were really nothing but collapse râles and the pain in the side nothing but perineuritis. "Idiopathic pleurisy" was the diagnosis in a large proportion of cases when tuberculosis of the lungs was the real mischief. Fluid removed from the chest should be studied either by the rapid method of cyto-diagnosis or by the slower and more certain method of inoculation. Pneumonia was frequently diagnosed when really the condition underlying the symptoms was tuberculosis. Mistakes were sometimes made in the physical examination of the chest. For instance, Skodaic resonance might lead to the diagnosis of cavities where none existed. Signs of a cavity at the apex together with absence of tubercle bacilli in the sputum ought to suggest the possibility of apical bronchiectasis, which was not often enough recognised. Hæmoptysis should be regarded as an early indication of tuberculosis and the case watched and treated as such till the idea of tuberculosis might be abandoned. The tuberculin test had its limits and the importance of Professor A. E. Wright's opsonic investigations as a diagnostic aid must be recognised. The sphygmometer was very useful for the estimation of fluid pressure, elevation of which might explain attacks of asthma as being possibly due to granular kidney.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held at the Royal Infirmary on May 15th, Mr. W. Handcock being in the chair.—Dr. A. Bronner showed: (1) A case of Moure's operation for Deviation of Nasal Septum; and (2) specimens of Papillomata of the Larynx removed by forceps from a child.—Mr. W. H. Horrocks showed: (1) Pylorus removed for Carcinoma; (2) Uterine Fibroid; (3) a case of cutaneous Anthrax undergoing spontaneous cure; and (4) a piece of Bowel two and a half feet long excised for multiple strictures due to contraction of intestinal ulcers, probably tuberculous.—Dr. H. J. Campbell read a paper on the Clinical Aspects of Rheumatic Infection. He gave a full account of the history of acute rheumatism and also of the theories of its causation put forward from time to time, ending with a description of the latest views on the bacteriology of the disease. Dr. Campbell then went into the various forms of the disease, dealing particularly with tonsillitis and chorea. "Is it at all certain," he said, "that these two are really rheumatic in origin in all cases?" As to treatment, he laid particular stress on three things: 1. Prolonged rest, at least six weeks, but better still three months. 2. Diet; a long-continued, light, easily assimilated and easily digested diet. 3. Drugs. He relied chiefly on salicylates combined with alkalies but not in the heroic doses sometimes given. He preferred to use Dover's powder to relieve pain and restlessness.—Dr. D. Goyder, Dr. T. W. Hime, Mr. W. Beckton, and Dr. A. Mantle took part in the discussion which followed.—Dr. Campbell replied.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.—A general meeting of this society was held on May 11th, Dr. R. H. Woods, the President, being in the chair.—Dr. Duncan Matheson Mackay was duly elected a Fellow of the association.—Dr. Andrew Wylie showed a case of Lymphangitis of the Upper Lip occurring in a female patient, aged 22 years, who went to the Central London Throat and Ear Hospital recently. She complained that the lip had been more or less swollen for the last five and a half years; sometimes it was so large as to touch the tip of the nose. There was well-marked interstitial keratitis of both eyes; she had Hutchinson teeth and several decayed stumps. Acute lymphangitis due to some local irritation was common; congenital lymphangitis of the lip called macrocheilia was not uncommon, but chronic hypertrophy lasting five and a half years was rare.—Mr. W. Stuart-Low showed a case of Cleft Palate that illustrated well the fact that adenoids diminished the dysalia.—Mr. Mayo Collier showed a case of Nævus of the Cheek.—Dr. W. H. Kelson showed a case of Laryngeal Disease occurring in a schoolmistress who had suffered from loss of voice for four months.—Dr. V. H. Wyatt Wingrave showed a number of Microscopical Specimens.—The President and Dr. Wylie exhibited Instruments.

Reviews and Notices of Books

The King's Coroner: being the Practice and Procedure in his Judicial and Ministerial Capacities. By R. HENSLOWE WELLINGTON, of the Middle Temple and South-Eastern Circuit, Barrister-at-Law, Deputy Coroner for the City and Liberty of Westminster and for the County of London, South-Western Division, M.R.C.S. Eng., L.R.C.P. Lond., &c. Vol. II. London: Baillière, Tindall, and Cox. 1906. Pp. xvi.–148. Price 7*s.* 6*d.* net.

THE first volume of this work was reviewed in THE LANCET of April 29th, 1905, p. 1138, or rather a preceding volume, entitled "The King's Coroner," containing a collection of the statutes relating to the coroner's office with a short history of its development, by the same author but from the office of a different publisher. Apparently it was not then intended that a second volume should appear, but Mr. Henslowe Wellington informs us that many of his colleagues and others asked for more and we ourselves suggested that more ample information bearing upon modern law and practice would have added to the value of the volume then before us. The present one supplies fairly completely what was required, containing as it does chapters upon the practice and procedure before an inquest is held, upon the proceedings in court, and upon the procedure after the court has risen, together with all the necessary forms to be followed in swearing witnesses and in issuing the orders, warrants, and other official documents which emanate from the coroner's office. We are inclined, however, to demur to the words "complete in itself" which the author has inserted on the title-page as applicable to Volume II., because in Volume I. the Coroners Act, 1887, and other statutes and portions of statutes are set out to some of which reference must necessarily be made sometimes and to which it can be made more conveniently than to extracts and paraphrases, but we can say without reservation that the two volumes together constitute a valuable summary of the law administered by coroners and that the officers for whom they are designed, particularly those entering into office, should find them extremely useful. We are inclined to think that a full table of contents and also of cases cited form useful adjuncts at the beginning of a legal text-book and these are absent, but the index seems fairly exhaustive and will perhaps be found sufficient.

The law relating to inquests is not, as has frequently been observed in THE LANCET, of a highly satisfactory character and Mr. Henslowe Wellington calls attention at several points to its anomalies and obscurities. One of these, for example, arises out of the unsatisfactory expression "a sudden death of which the cause is unknown" and another out of the fact that the coroner only has jurisdiction to order a post-mortem examination when he has issued his warrant for the holding of an inquest. In the latter instance the necropsy may show that the inquest is unnecessary as the death has not been one into which it is the duty of the coroner to inquire, as, for example, in the case of the body of an infant, where the post-mortem examination may show that it was stillborn. In these and in other matters, such as the summoning of medical witnesses not strictly provided for by the Coroners Act, a discretion is allowed to the coroner, the limitations of which might more conveniently be defined by statute, but there does not appear to be any immediate prospect of the revision and codification of the law as it now exists such as would curtail the circulation of the author's two volumes. We note, by the way, that he cites without observation the provision of the Coroners Act, 1887, that a county coroner must be "a fit person having land in fee sufficient in the same county whereof he may answer to all manner of people," but we should rather like to know whether candidates for such office are really questioned as to their possession of the prescribed qualification, and if not to what useful end the retention of such a condition in an Act of Parliament may serve.

With regard to questions affecting the medical profession the author makes a statement at p. 23 which he does not support either by authority or by any example which would enable us better to follow his meaning and with which, as it stands, we disagree. He says there: "It is not always necessary to have medical evidence at an inquest, so that the expense of calling it should not be incurred unless the coroner is satisfied that a skilled and scientific examination is necessary in order to determine the cause of death, or that it is necessary for the jury to have a history of the deceased's illness and treatment." He makes no reference to the systematic employment of medical witnesses not connected with the district in which the inquest is held, of which the cases recently brought to the notice of the auditor of the London County Council are examples, and he has some observations upon the verdict "in accordance with the medical evidence" which are a little difficult to follow. He seems to regard this verdict as making the medical witness act as judge and jury, and indeed he so refers to the point in his index, but we were under the impression that such a verdict simply implied the acceptance by the jury of the medical evidence touching the actual cause of death, either in the absence of all other evidence or without any further evidence being before them upon which they can rely, and in such circumstances we see no impropriety in the expression cited. Mr. Henslowe Wellington, however, on the whole, has collected a considerable body of useful legal information as well as some that is of historical interest, for the opening chapter of his second volume contains introductory matter that is complementary to the historical sketch at the beginning of his first.

Die Palpablen Gebilde des Normalen Menschlichen Körpers und deren Methodische Palpation. (The Palpable Outlines of the Normal Human Body and their Methodical Palpation.) Von Dr. TOBY COHN. 1. Teil: Obere Extremität (Part 1: The Upper Extremity). Berlin: S. Karger. 1905. With 21 figures in the text. Pp. 216. Price 5.60 marks.

IN this work the author has set himself the task of investigating the structures of the body in so far as they are capable of being studied by palpation. He is rightly of opinion that the art of palpation is a highly important one and that it receives relatively less attention, both in the curriculum and in the practice of medicine, than other means of observation, such as inspection, percussion, and auscultation. His attention was directed to the need for some systematic work devoted to the information obtainable by palpation in the course of his observations on massage, and his object in writing the present volume is to provide the practitioner with a manual which shall stand in the same relation to the information derivable from the sense of touch as the various works on artistic or plastic anatomy do to the facts observed by the sense of vision. Both subjects are subdivisions of applied anatomy, but whereas artistic anatomy deals only with the surface the information derived from palpation is largely concerned with the deeper structures. The present volume, upon which the author has been engaged for four years, deals with the upper extremity and is the first part of a series. The information derived from palpation of numerous individuals both in private and institution practice has been confirmed by observations on the dead body and compared with the drawings of ancient and modern artists. The importance of systematic and careful practice of the method of palpation upon the healthy living body is strongly emphasised

and an exact description of the best forms of palpation to adopt in different parts is given. The results obtainable in reference to the skin, connective tissues, glands, fasciæ, aponeuroses, muscles, bones, joints, arteries, veins, and nerves are carefully recorded. For purposes of description the arm is divided into seven regions, which are further subdivided into 16 sections. The characters of these and the information obtainable by palpation are given in great detail by Dr. Cohn; each section is minutely described and the various structures composing it are considered in so far as they are palpable. The volume as a whole represents a very great amount of painstaking original research and the outcome has been to produce a really valuable book; indeed, one of unique character which we can thoroughly recommend. The illustrations are clear, the letterpress is interesting, and there is a useful index at the end of the book.

Semmelweis' Gesammelte Werke (Semmelweis's Collected Works). Edited by Dr. TIBERIUS VON GYÖRY. With a portrait of Semmelweis and an illustration of his tomb. Jena: Gustav Fischer. 1905. Pp. 604. Price 12 marks.

THIS collection of his published works is a worthy tribute to the memory of Semmelweis, a man whom all obstetricians should be ready to honour. It does great credit to its editor, Dr. Tiberius von Györy, who, as he tells us in his preface, was influenced in his decision to edit an edition of the works of Semmelweis not only because in the original they are at the present time rare and difficult to obtain but also because there are still writers who dispute Semmelweis's claim to priority in his discovery of the nature of puerperal fever and because there is still a good deal of misconception on the point that he was the first to demonstrate that child-bed fever and pyæmia, in the widest sense of the word, are one and the same disease. Papers by Hebra, Routh, Haller, and Skoda are included in the book. Semmelweis, as Dr. von Györy explains, had a great objection to publishing any of his discoveries, and it was not until the year 1858 that he published in Hungarian the observations which he had made in 1847 and they were not published in German until 1860. Dr. C. H. F. Routh's communication is one of very special interest. It is a paper on the Causes of the Endemic Puerperal Fever of Vienna read before the Royal Medical and Chirurgical Society on Nov. 28th, 1848, after a visit to Vienna. As he says, Semmelweis, reasoning from the different mortality-rates obtained in the two divisions of the hospital in Vienna, in the first of which the patients were attended by midwives and medical men and in the second of which by midwives alone, came to the conclusion that the very heavy mortality met with in the first must be due to the infection of puerperal fever being conveyed to the patients by the hands of the medical men in attendance which were contaminated with cadaveric poisons. According to Dr. Routh, the credit of first having pointed out that the medical attendant might communicate this disease by retaining a portion of poison *subter ungues*, which he subsequently directly applied on making a vaginal examination, must be given to Dr. Blackman of Edinburgh, but Semmelweis was the first to see the practical application of such a theory. In this manner he believed the disease was so frequently communicated to the women in the first division of the hospital, while the reason why the women in the second division escaped was because the midwives made no post-mortem examinations and did not get their hands infected with cadaveric poisons. It is now a matter of common knowledge how by prohibiting the students from making post-mortem examinations and by directing them to wash their hands in a solution of chlorine prior to, and after, every vaginal examination, the mortality in the first division was quickly lowered to the level of that of the second. Semmelweis's paper on the Etiology, the Nature, and the Prophylaxis of Puerperal Fever is given in full and extends to over 300 pages. The reasons for his conclusions are here fully set forth and the whole forms an account of the greatest interest. Dr. von Györy has included in this collection not only all the writings of Semmelweis but also the open letters which he wrote to Spaeth, von Siebold, and Scanzoni on the subject of the etiology and prevention of puerperal fever.

The profession are much indebted to Dr. von Györy for the trouble which he has taken in collecting in an easily accessible form the writings of one of the greatest benefactors of the human race, the whole forming a record of one of the most interesting chapters in the history of obstetric medicine. The well-known engraving of Semmelweis forms a frontispiece.

LIBRARY TABLE.

Essentials of Bacteriology, being a Concise and Systematic Introduction to the Study of Micro-organisms. By M. V. BALL, M.D., formerly Resident Physician, German Hospital, Philadelphia. Fifth edition, thoroughly revised by KARL M. VOGEL, M.D., Assistant in Pathology, College of Physicians and Surgeons, Columbia University, New York City. With 96 illustrations, some in colours, and six plates. London: Henry Kimpton. 1906. Pp. 243. Price 4*s.* net.—This forms one of the series of volumes issued under the title of "Students' Essentials." It is intended to furnish the medical student with a concise treatise upon the "Practical Bacteriology of To-day." In a short space it covers an immense deal of ground, as not only does it treat of bacteriological methods, both microscopic and cultural, but it also contains descriptions of an unusually extensive series of micro-organisms, since it deals with those pathogenic both to man and to animals, with non-pathogenic bacteria, with pathogenic protozoa, and with many of the higher fungi, among which are included the streptothrichæ. In addition, methods for the bacteriological examination of air, soil, and water are given and room is found for a short account of the flora of the organs and cavities of the human body. Finally, there are tables setting forth the chief characteristics of the principal bacteria. The graces of style can hardly be expected where condensation of matter is so urgently needed. To make the teaching clear and precise, notwithstanding the great difficulties introduced by this severe compression, would require the greatest possible care in choice of language. There is no evidence that this care has been exercised and many of the statements are vague and slipshod, though not often positively inaccurate. It would not be difficult to select examples. That the book satisfies a need seems evident, since it has reached a fifth edition, but it is of little educational value. The printing of the text and the reproduction of the plates and illustrations are satisfactory.

Chavasse's Advice to a Mother. Sixteenth edition. Revised and enlarged. By T. D. LISTER, M.D. Lond. London: J. and A. Churchill. 1906. Pp. 454. Price 2*s.* 6*d.*—This useful book has undergone extensive and thorough revision at the hands of Dr. Lister. The section on the hand-feeding of infants has been entirely re-arranged and re-written throughout. The description of the natural feeding of infants at the breast has also been revised. The fact that this work has reached its three-hundredth thousand shows that it requires no commendation from us. It still remains in spite of many rivals the best book of its kind.

The Pharmacy Student's Pocket Notebook. Edited by JOHN HUMPHREY. London: The Pharmaceutical Journal Office. 1906. Pp. 120.—This little book is designed to give to students and others information as to how they can qualify as

chemists and druggists. It contains details of the examinations of the Pharmaceutical Society, both the minor examination and the major, a list of prizes, sundry tables, and a list of Latin terms used in prescribing, with translations of the same. Altogether, the class for which it is written should find it very useful.

Low's Handbook to the Charities of London, 1906. Seventy-first year of publication. London: Eliot Boothroyd. Pp. xxxii.-286. Price 1*s.*—This excellent little book is arranged alphabetically, so that it is easy to find any particular charity. Like all guides to charities, it contains details of a number of societies the work of which can in no sense be called charitable. For those who wish to contribute to real charities, however, the book is an admirable help, although it does not pretend to enter into such a detailed account of charity and charities as does the work noticed below.

The Annual Charities Register and Digest, 1906. London: Longmans, Green, and Co., and the Charity Organisation Society. Pp. cccii.-688. Price 5*s.*—This well known compilation is indispensable to every almsgiver. The introduction by Mr. C. S. Loch is a mine of information in itself and the index is a model of what an index should be. A new feature in the present volume is a series of articles upon special branches of charitable work written by experts in the particular subject of which they treat. "A Review of the Year" is another addition. Our remarks about charities which are no charities, but rather polemical politico-religious societies, apply to this book as to nearly all other charity guides. We hold no brief either for or against such societies, we merely contend that they should not call themselves charities.

New Inventions.

A NEW DIRECTOR FOR BLIND INTERNAL FISTULA.

IT may happen that in cases of blind internal fistula difficulty may be experienced in finding the opening and passing an ordinary probe into the sinus. To accomplish this manœuvre it usually means that the probe has to be bent to a greater or less degree. To overcome this difficulty I have devised an instrument of which the accompanying illustration is a representation. It consists of a straight stem terminating above in a bulbous extremity and expanding below into a broad handle. The length of the stem is three and a half inches. From the stem runs a straight probe-pointed director one and three-quarter inches in length and set at an angle of 23 degrees. There is a groove on both sides of the director which is carried almost up to the point on the one hand and obliquely on to the stem on the other. The special points about this instrument are: (1) its top is bulbous, so that when it is inserted it can do no harm to the mucous membrane; (2) the groove being on *both* sides of the probe-pointed director enables the surgeon to slit up the tissues overlying the fistula, no matter where the latter may be situated; and (3) the handle being broad the instrument can easily be rotated into any position desired. The makers of the instrument are the Holborn Surgical Instrument Company, who have admirably carried out my suggestions.

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Looking Back.

FROM

THE LANCET, *SATURDAY*, May 24th, 1828.

FOREIGN DEPARTMENT.

ANOMALY OF VISION. BY M. J. GODMAN.*

THE inversion of images formed on the retina, by the passage of rays of light through the anterior part of the eye, resulting from the laws of optics, is constant, and does not produce any uncertainty in the judgment relative to the position of the objects, provided the other senses be in their natural condition. The following case presents an extremely interesting exception:—A child, seven years of age, the son of a distinguished artist, commenced taking lessons in drawing from his father; but it may be imagined how great the parent's surprise was at finding all the objects which the child represented, drawn upside down. It was first supposed that the child might be practising this inversion of objects in joke, but he affirmed that he drew the objects as they appeared to him; and as the drawings were, in other respects, very accurate, there was no reason for doubting the child's word. Every time that the object was turned before he took a sketch of it, he represented it in the natural position, showing that the sensation received by the eye corresponded perfectly with the inversion formed on the retina. This state of vision continued more than a year; after which time the child began to see objects in their natural position.

Many analogous cases have been observed; a very distinguished lawyer, for instance, saw, for some time, objects inverted; the houses appeared to him to rest on the roofs—men, to walk on their heads, &c. This aberration of vision depended on a disturbed state of the digestive organs, and disappeared with the cause which gave it origin. Dr. Wollaston, after considerable exercise of body and mind, suddenly found that he could see but half of the figures of persons whom he met, as well as other objects which came before him. Dr. Crawford relates the history of a woman who was attacked with a slight hemiplegia of the left side, who, from that period, could see but half an object, not even after that the power of motion had been restored to the paralysed side. Another person had, for several years, a derangement in the vision of the right eye, to which every single object was represented multiplied seven or eight times.

* Journal Universel des Sciences Med. Feb. 1828.

ASYLUM WORKERS' ASSOCIATION.—The annual general meeting of this society (founded in 1895 to improve the status of asylum nurses and attendants, to provide for them "homes of rest and nursing," and to enlist public sympathy in their work) will be held at the Medical Society's house, 11, Chandos-street, Cavendish-square, London, W., on Friday, June 1st, at 4 P.M. Sir John Batty Tuke, M.P. (president of the association), will take the chair. There will be a presentation of two gold and two silver medals awarded by the association for long and meritorious nursing service. All interested in asylum work and workers are cordially invited to attend.

THE PANHELLENIC MEDICAL CONGRESS AT ATHENS.—The Fifth Panhellenic Medical Congress has just taken place at the Greek capital. It lasted a week and closed at the time when the Olympic games were brought to an end. The King of Greece and the Royal Family were present at this Congress and the Minister of Public Instruction opened it, in his capacity of president, with an eloquent discourse on the progress of medical science generally. The work of the Congress has been divided into two sections—a pathological one which held its meetings in the halls of the University and a surgical one which gathered in the academy rooms. It is reported from Athens that there was a large influx of foreign medical men desirous of attending the Congress. At its close the President announced the formation of a joint-stock society for the purpose of exploitation of all the mineral waters of Greece. He also communicated the news that this society offers 2000 drachmas (one drachma = one franc) for the best work on the curative properties of the mineral waters of Greece.

THE LANCET.

LONDON: SATURDAY, MAY 26, 1906.

The Dispensing of Medicines in Drug Stores.

IT is unfortunate that business competition should ever have invaded the practice of pharmacy to the extent that it does at the present time. Unfair competition in the sale of articles of food and dress is bad, but when it affects the sale of drugs the evil is even worse. For many years it has been the custom for grocers, drapers, and general dealers to sell certain well-known proprietary medicines at the barest margin of profit to themselves, sometimes even at a loss, in order to attract business. In course of time simple drugs and surgical requisites were added, and finally, in the case of many large businesses, the dispensing of medicines was undertaken. But the proprietors of such establishments seem always to have regarded the pharmaceutical department, even the dispensing of medicines, chiefly as a means of fostering the more profitable departments of their business. Medical prescriptions are dispensed at prices which do not appear to afford sufficient remuneration for the care, skill, and scientific knowledge that are required. Hence it follows that the dispensing of prescriptions in drug stores, as might be expected, is frequently performed in an unsatisfactory manner.

This is well shown by Mr. CHARLES T. ALLEN, pharmaceutical chemist, in an able paper on "Drug-Store Managers and their Work," reprinted from the *Pharmaceutical Journal*. Mr. ALLEN sent a number of prescriptions, such as offered no exceptional difficulty, to various pharmacies and drug stores in London and the provinces in order to ascertain the quality of the dispensing at drug stores and cash chemists, as contrasted with that done in ordinary pharmacies. A careful comparison of the medicines supplied distinctly shows the inferiority of drug store dispensing. A prescription for pills containing podophyllum resin, the valerianates of iron and zinc, and one drop of oil of peppermint was presented at ten pharmacies and ten drug stores. A photograph which is reproduced in Mr. ALLEN'S article shows that the pills in the top row, which were made in ten different pharmacies, are uniform in size, while the products of ten different drug stores, illustrated on the bottom row, exhibit wide variations in size, two only being satisfactory. A competent pharmacist would have no difficulty in turning out a good pill, weighing from five to six grains, by adding powdered gum, but to an indifferent dispenser the incorporation of a relatively large proportion of a volatile oil affords endless trouble. A subsequent examination of the pills showed that in five suspicious batches dispensed at drug stores a way out of the difficulty was found in the simple expedient of omitting a large proportion of the oil! The smallest of the suspected batches consisted of two-grain pills, thus showing that some other ingredient, in addition to oil, was omitted. In the conduct of a well-regulated pharmaceutical establishment importance is attached to promptness in dispensing, but in several drug stores the pills were not sent out until one, two, and in one case three days had elapsed, while in one instance the prescription was returned with the remark that "having lately opened we have no rare drugs in yet." On the other hand, the pills obtained from pharmacies were promptly and uniformly dispensed. A prescription for a castor oil draught in the form of an emulsion was satisfactorily dispensed in the three pharmacies to which it was taken, but three drug stores out of three failed to produce a good emulsion. A prescription for lozenges containing tannic acid, menthol, and eucalyptus oil, made up with fruit basis, was taken to six drug stores and three pharmacies. It was refused by five of the stores and dispensed in a satisfactory manner in the remaining store and in the three pharmacies. The last prescription with which Mr. ALLEN prosecuted his inquiries consisted of a draught containing liquor glonoini and compound tincture of cardamoms, made up with distilled water. It was devised principally to ascertain whether distilled water or tap water would be used. Compound tincture of cardamoms forms a ready means of determining this, as it produces a bright crimson colour with tap water and not with distilled water. Out of six drug stores visited in London five used tap water for this prescription. The ingredient "liquor glonoini" puzzled two of the countermen, one of whom said that it was a proprietary preparation which they did not keep in stock and would have to procure. There is no doubt that the state of things described and illustrated so practically by Mr. ALLEN does really exist in drug stores. In an inquiry, however, which we made ourselves some years ago ordinary prescriptions on the whole proved to be accurately made up, but on one occasion it was found that opium had been omitted from a diarrhœa mixture.

As regards the remedy for this state of things we do not look to the drug stores to improve their methods. As Mr. ALLEN points out, the class of men who become assistants in drug stores usually lack *esprit de corps*, otherwise they would not lend themselves to a system of business so detrimental to their fellow craftsmen. Again, the method of conducting a drug store is such that the dispensing of medicines is regarded as secondary in importance to the commercial side of the business. In stores the assistants usually, if not always, receive a fixed salary, supplemented by a liberal commission on the sales which they effect. Hence in the smaller stores and in branch drug stores, which are the worst offenders, self-interest leads an assistant to prefer selling at the counter to dispensing prescriptions of more or less difficulty, as doubtless it is possible for him to earn more money in commissions on sales than in following the more pharmaceutical portion of his calling. This accounts for the very prevalent custom in drug stores of refusing prescriptions which require much time and care to dispense. In many stores the dispensing of medicines is not undertaken on Saturdays, while the fact that drug stores are entirely closed on Sundays shows how little the proprietors consider the convenience of the public in cases of emergency.

Again, in a drug store the pharmaceutical experience gained by the assistant is practically negligible owing to the fact that the galenical preparations and packed goods are usually made at a central depôt and distributed to the various branches. The result is that the drug stores' assistant tends to be a shopman rather than a pharmacist, a distinction which obtains even if he be qualified, which often he is not. Mr. ALLEN points out that an expert dispenser when placed in charge of a drug store is quickly demoralised by inadequate help and curious surroundings which are not compatible with conscientious dispensing. He has to be a business man first and a pharmacist afterwards. In most cases he is too much occupied with other matters to be able to exercise proper supervision, even if he is capable of doing so. Hence any difficulties of the dispensing department, or inconvenient demands therefrom, must be smothered. Mr. ALLEN does not claim that the observations which he has made apply to all stores in which there is a dispensing department, nor does he imply that all assistants in such stores are equally untrustworthy. It is quite possible that in the dispensing departments of some of the larger general stores, where assistants are able to devote their whole time to dispensing, a better state of things prevails.

Insurance Schemes and Medical Research.

FOR some years past—indeed, ever since the advent of certain American insurance companies which have recently acquired notoriety as competitors in the British insurance market—the ways of the insurance agent have steadily deteriorated. Pertinacity, which characterised him of old, may be set to his credit, for the everyday man is prone to procrastinate and to be unduly parsimonious where it is a question of laying out a little money on insurance. But the forcing upon the public of expensive and unserviceable forms of the insurance contract is another matter and when these are marketed under descriptions that are likely to mislead, and certain to be misunderstood, the enterprise becomes less innocent. Such are the business methods with which in recent years the New York offices have made us sorrowfully familiar and we much regret to note that they have infected some of our home-bred institutions. Particularly open to reproach is an advertisement which is now being widely circulated in the apparent interest of the Ocean Accident and Guarantee Corporation, Limited, and as this appeal for public patronage is connected with an assumed furtherance of medical research, and is dressed out in the credit of this connexion, it becomes our duty to point out how little the patronised interest stands to gain from the connexion and to subject to scrutiny the boon which is offered to the public in this illusory association with the advancement of medical science. Shortly stated, the proposal made to the public is this. The company will issue at certain published rates of premium an insurance policy covering certain risks of accident and a few cases of disease. Out of premiums paid in respect of these insurances a proportion, rather less than 3 per cent., is to be set aside for promoting what is vaguely described as a crusade against consumption and cancer. Whoever made the bargain with the company would seem to have been little alive to the rates of commission usually paid by insurance companies for the introduction of new business or he would hardly have remained satisfied with a 3 per cent. allowance. But that may pass. We are not anxious to see even the self-elected representatives of the public among the ranks of the more rapacious takers of business commissions, especially when the commissions are called by euphuistic names. The company, for its part, offers a particular kind of accident insurance—for the risk of disease covered is statistically so small a matter that it may be neglected—but it is an accident insurance of a singularly unserviceable kind. Thus it excludes all the great industrial risks from boiler and other explosions, running machinery, and the like. It equally excludes the common domestic mishaps of burns, scalds, and cuts, the more serious dangers of the home, such as slipping on a smooth floor, falling upon stairs, or injury from overreaching or over-balancing one's self. It excludes again the common perils of the street—tripping over a kerbstone, colliding at a corner, or any of the results of making a false step. In fact, only a small and arbitrarily selected class of risks is to be undertaken by the company and these risks, being for the most part connected with travelling in public vehicles, are precisely such as the individual can best afford to leave uninsured in reliance upon the responsibility of railway and omnibus companies. Real and comprehensive accident insurance is a protection which every man should secure who is dependent for his livelihood upon his bodily powers. The practice of this form of thrift we have consistently advocated and shall continue to advocate. But there is no reason that we can understand why the public should insure against an arbitrarily selected group of risks when the selection is made by the company which issues the policy. Moreover, speaking in the name of the pioneers of medicine and the real conductors of medical research, we are of opinion that they can gain no more real advantage than dignity by accepting the jackal's part in such an expedition while enterprising tradesmen or trading corporations have the lion's rôle.

The Public Health of Belfast.

BELFAST is a comparatively newly built city with a population of about 350,000 and it may be considered in every respect a flourishing place, but the figures representing its death-rate are by no means creditable to the inhabitants who are rightly proud of the commercial eminence which they enjoy. In the letter from our Belfast correspondent which appeared in our issue of May 19th an account was given of the proceedings of a conference held under the auspices of the Belfast "Citizens' Association," and in the course of a clear description of the present situation certain figures were quoted which had been compiled for the occasion by Dr. W. CALWELL, President of the Ulster Medical Society. These figures we repeat herewith, for the facts which they set forth cannot be too clearly impressed upon the minds of those in whose hands lies the future of the organisation of the Belfast health department, while their accuracy, we believe, is not impugned It appears,

then, that in 1904 Belfast was bracketed from seventy-fifth to seventy-seventh out of 82 large towns in the United Kingdom in its death-rate, which stood at the high figure of 20·9 per 1000, the only towns exceeding this rate being Salford 21·2, Manchester 21·3, Wigan 21·5, Liverpool 22·6, and Dublin 23·4. In 1903 Belfast was seventy-seventh out of 80 large towns, with a death-rate of 20·0 per 1000, being only exceeded by Middlesbrough, Wigan, and Dublin, which showed death-rates of 21·5, 22·2, and 22·9 respectively. In 1902 Belfast was also seventy-seventh out of 80 large towns, the three ranking higher being Liverpool, Merthyr Tydvil, and Dublin, and the respective rates being 21·6, 23·1, and 24·2 per 1000. In 1901 Belfast came thirty-sixth out of 37 large towns, the only one to exceed it being Dublin, with a death-rate of 24·5 per 1000. For these four years, then, Belfast had practically the worst death-rate in the United Kingdom, with the exceptions of Dublin, Liverpool, and Wigan, and on two occasions the two latter towns had the same death-rate as Belfast. The latest published returns of the health of 76 great towns show that for the week ending May 19th 140 deaths occurred in Belfast, being a death-rate of 20·4 per 1000. This figure is exclusive of deaths of persons admitted into public institutions from without the boundaries of Belfast.

As regards the two eminently preventable diseases of pulmonary tuberculosis and typhoid fever the Belfast death-rate is distinctly discreditable to the community. Professor J. W. BYRNE has given the death-rate in Belfast from tuberculosis striking publicity in the course of a newspaper controversy which has taken place in the city. The death-rate from tuberculosis, he says, quoting high authority for his words, shows a mean for the 12 years 1894–1905 of 3·3 per 1000, while in 1905 it was still 3·1, a figure worse than that shown by any large city in England or Scotland. The death-rate in Belfast from typhoid fever is as noticeable. During the ten years commencing 1895 and ending 1904 there were in Belfast 2577 deaths from this disease. This term includes the years 1897 and 1898, when typhoid fever was epidemic in Belfast. During both these years our Special Sanitary Commissioner paid a visit to the city and in his outspoken articles, which gave considerable offence to the more short-sighted of the community, showed very clearly how grossly defective were the sanitary conditions of the town.[1] A large proportion of the houses were built back to back with privies instead of water-closets, while many of the houses in the new districts had been erected upon what is euphemistically called by builders "made ground"—that is to say, ground from which good soil has been taken for use elsewhere, its place being supplied with rubbish of all sorts, even including the contents of privies. Dr. HENRY WHITAKER, the superintendent medical officer of health, did his best to deal with the serious problem that he saw would later have to be faced, but his hands were tied by the conditions of the building laws, while the general policy of the city municipal authorities cannot be regarded as progressive in sanitary affairs. Although typhoid fever is not now epidemic in Belfast, the death-rate from that disease is still high. In 1904 it was stated to be 0·30 per 1000, but the figure is not a trustworthy one, for the medical officer of health in his report for that year said: "The number of deaths registered during the year 1904 was 7474. Of these 2885 were attributed to chest affections and 889 to zymotic diseases. I regret that I have not the information which would enable me to place before you the causes of death of the remaining 3700." This being so, it is quite possible that the typhoid fever death-rate if all the causes of death had been ascertainable would have been higher than the figure given above; indeed, so large a number of deaths from unascertained causes vitiates vital statistics considerably.

We have here a very serious state of affairs, for an abnormally high death-rate is accompanied by sinister figures in connexion with certain preventable diseases. The facts published, and the deductions from them, have raised in the minds of many of the inhabitants of Belfast a belief that the best sanitary interests have not been served by the authorities, and a resolute movement is being made to insure that, whatever may have happened in the past, there shall be no sanitary supineness in the future. The resignation of Dr. WHITAKER, owing to increasing age and failing health, has afforded an excellent opportunity for taking vigorous action as to the future sanitary organisation of the city, and at a conference held in Belfast on May 8th, a report of which has already been published in THE LANCET,[2] a motion was carried urging that the city council "should secure the highest specialised professional skill and lengthened experience available in the United Kingdom for the oversight of our public health." At a meeting of the Ulster Medical Society held on May 17th motions were unanimously carried demanding that the new medical officer of health should be an exceptionally able and scientific sanitarian, that his salary should be in keeping with his qualifications, and that he should be the veritable head of a sanitary department. To no other conclusions in these days could a medical society come in such circumstances. A city like Belfast, which is famed, and rightly famed, for its two great industries of shipbuilding and linen manufacture, should no longer be a byword among the cities of the Empire for its high death-rate—a death-rate, moreover, due in great part to death from preventable disease. The new medical officer of health should be a medical man not only holding a public health qualification but one who has had a thorough training in all departments of public health, for he has an unsatisfactory state of affairs to deal with—though this, we may say, is no fault of the resigning medical officer, but is clearly due to unfortunate organisation. He should be one who can guide and direct the public health committee of the town council, for the lay authorities clearly need expert assistance. He should be paid an adequate salary and should be supported in his efforts to remove such gross errors in sanitary matters as those which were disclosed by our Special Commissioner eight years ago, and many of which still flourish. Neither slum landlord nor jerry builder should be spared, if it be made evident that to their ignorance or greed are due conditions which favour the spread of typhoid fever or other preventable disease and maintain the death-rate of Belfast at such a figure as 20 per 1000.

[1] THE LANCET, Nov. 27th, 1897, p. 1415, et seq., and Feb. 5th, 1898, p. 393, et seq.

[2] THE LANCET, May 19th, p. 1434.

Annotations.

"Ne quid nimis."

INFANT MORTALITY IN ENGLAND AND WALES.

IN another column of our present issue (p. 1485) are given particulars of the approaching National Conference on Infantile Mortality, under the chairmanship of the President of the Local Government Board, and in this connexion it may be of interest to consider the statistics on the subject recently issued in the Registrar-General's annual summary for 1905. Infant mortality in England and Wales, measured by the deaths under one year of age to 1000 registered births, averaged 154 in each of the two decennia 1851–60 and 1861–70 and the rate successively declined to 149 and 142 in two following periods 1871–80 and 1881–90. In the last completed decennium, however, this rate of infant mortality rose again to 154 per 1000 and thus justified the assertion that during the first 60 years of civil registration of births and deaths in England there had been practically no permanent decrease of infant mortality, notwithstanding the marked general decline in the national death-rate between the ages of one and 50 years, and the consequent increase in the mean duration of life. There can be no doubt that the realisation of this fact has recently stimulated public interest in the promotion of various measures devised by local sanitary authorities for the protection of infant life, and to this it does not appear unreasonable to attribute, in part at any rate, the distinct decrease of infant mortality recorded during the first five years of the current decennium. During the five years 1901–05 the mean proportion of deaths in the first year of life declined to 138 per 1000 registered births and the Registrar-General reports in his annual summary that the rate of infant mortality during last year did not exceed 128 per 1000 and was the lowest rate on record since the commencement of civil registration in 1837. With regard, however, to the low mean rate of infant mortality during the past five years it should be noted that the summer temperature was considerably below the average both in 1902 and 1903, which materially reduced the fatality in those years from infantile diarrhœa, a form of disease which is a controlling factor in the annual rate of infant mortality. The summer temperature last year was, however, somewhat above the average and the low rate of infant mortality (128 per 1000) may therefore be attributed in great measure to the result of greater care in the treating and feeding of infants; it was no less than 22 per 1000 below the mean rate in England and Wales during the preceding ten years 1895–1904. While the rate last year, however, did not average more than 128 per 1000 in the whole country, it was equal to 140 in the 76 large English towns and to 132 in 141 smaller towns; among the remaining and mainly rural population the rate did not exceed 113 per 1000. In the 76 large towns, however, the rate of infant mortality showed wide variations; it was below 90 per 1000 in Hornsey, Handsworth, Bournemouth, Burton-upon-Trent, and King's Norton, but ranged upwards in the other towns to 174 in Grimsby and in Norwich, 193 in Merthyr Tydfil, 195 in Hanley, and 200 in Rhondda. Among the other 141 smaller towns there were also last year some striking instances of the result of neglect of infant life, as the rate of infant mortality was equal to 198 in Tunstall and Longton and 205 in Burslem, three urban districts in Staffordshire, and to 208 and 228 in Ince-in-Makerfield and Farnworth, in Lancashire. As has been noted, the mean rate of infant mortality last year in the English population, exclusive of the 217 towns specially dealt with, was 113 per 1000; the rate, however, in the more distinctly rural counties was exceptionally low, not exceeding 81 in Buckinghamshire, 82 in Radnorshire, and 84 in Wiltshire and in Hertfordshire. The Registrar General in his recently issued detailed annual report for the year 1904 publishes some valuable and interesting tables dealing with infant mortality, from which it appears that 49 per cent. of the mortality during the first year of life occurs before the infant is aged three months, 20 per cent. between the age of three months and six months, and 31 per cent. in the last half of that year. These tables also show that the mean rate of infant mortality in England and Wales in 1904 was equal to 145 per 1000, of which 10 were due to the principal infectious diseases (six being due to whooping-cough and three to measles), 32 to diarrhœal diseases, 46 to wasting diseases (including premature birth, congenital defects, atrophy, and debility), six to tuberculous diseases, 16 to meningitis and convulsions, 23 to bronchitis and pneumonia, and 12 to other causes. This differentiation of the assigned causes of infant mortality is valuable as affording some indication of the varying measures necessary for its future reduction. It may also be pointed out that in recent years there has been a marked and steady increase in the deaths referred to premature births. During the five years 1866–70 these deaths were equal to a proportion of 11 per 1000 births registered, whereas the proportion had increased to 19 per 1000 in the five years 1896–1900, and further to 21 in the year 1904. It is satisfactory to note that this is one of the features of infant mortality which is to be discussed at the approaching conference. It is not without interest, however, to point out that the mortality attributed to premature birth does not appear to show any wide variations in the industrial and rural counties respectively. In 1904 the mean number of deaths referred to premature birth in England and Wales was equal to 21 per 1000 registered births; the proportion of this mortality was 21 in Lancashire and 20 in London and in Staffordshire, while it was 19 per 1000 in Shropshire and Dorsetshire and 17 in Wiltshire. These figures do not suggest any very intimate connexion between the industrial occupation of women and the proportional mortality attributed to premature birth.

THE PRACTICE OF PHARMACY IN RUSSIA.

THOUGH the conditions of life in Russia are in many respects unfavourable it would appear that in some measure so far as concerns the practice of medicine and pharmacy Russia sets a good example to this country. This is well shown by Mr. Prosper H. Marsden in an article, reprinted from the *Pharmaceutical Journal*, on the laws relating to the practice of pharmacy in Russia. Since the year 1581 when James Frencham, an English apothecary, founded the first pharmacy in Russia at the Court of Ivan the Terrible, Russian rulers have extended a remarkable degree of protection to exponents of the healing art. At the present time the Department of Medicine exercises a control over pharmacy, its regulations affecting every detail of daily routine, even to the fixing of prices. No new pharmacy may be opened without permission from this department, the number being regulated by the population. The greatest care is observed with regard to the sale of poisons which is so rigidly guarded that fatalities by ordinary poisons are comparatively rare. Indeed, ordinary poisons are so difficult to obtain that in 99 per cent of cases of suicide by poisoning among the uneducated classes ammonia is the agent employed. In regard to prescribing and dispensing the Russian law restricts the former to medical men and the latter to pharmacists. Dentists are not allowed to prescribe, though they may order for their own use in practice certain poisons—e.g., cocaine and mercuric chloride. The sale of the more powerful remedies

without a physician's prescription is prohibited and a prescription is never handed about from one person to another. It is regarded as an order from a medical man to a pharmacist to supply certain medicaments for the use of a particular individual. The original is retained by the aptekar, or pharmacist, for three years and a copy is written upon the label. In ordinary cases the medicine is repeated on production of the label but prescriptions containing the stronger remedies cannot be repeated unless the prescriber appends his signature on each occasion when a fresh supply is required. It is of interest to note that the sale of most of the proprietary articles foreign to Russia is forbidden and all extracts of plants used in medicine must be of home manufacture. The Department of Medicine exercises a control over all new remedies and finds out if these can be replaced by Russian-made articles.

THE EFFERVESCING BEVERAGE.

ARTIFICIALLY aerated waters are a comparatively modern invention and were suggested, no doubt, partly by the occurrence of natural sparkling waters and partly by the effervescent quality observed in fermented liquors in which the carbonic acid gas evolved was allowed to collect under pressure. Whatever may have been its origin, the discovery of artificially aerated waters, as exemplified in the universality of soda-water, seltzer-water, and potash-water, proved to be the beginning of an enormous industry and millions of dozens of aerated waters are now made annually involving the employment of probably at least 50,000 persons in this country alone. This fact, coupled with the numerous devices which enable the consumer to prepare his own soda water at home, would seem to indicate that the introduction of aerated waters filled a place in the requirements of modern life, and the question arises as to whether the frequent drinking of waters strongly impregnated with carbonic acid gas has any prejudicial effect upon the health of the economy. It is an interesting feature of the case that total abstainers formed at one time the chief patrons of aerated beverages. The pleasant, sharp taste of soda-water, lemonade, and so forth, formed an agreeable contrast to the usual drinks of the teetotaler. The lemon-squash made with soda-water was a much more interesting beverage than still lemonade, and so "the minerals" made a very acceptable addition to the beverages of a class of persons whose views we all respect. But undoubtedly the present popularity of whisky is very closely connected with the demand for an aerated beverage. There are scores and scores of persons who would never have cultivated the taste for whisky unless they had had the opportunity of mixing it with soda-water and converting it into an effervescing beverage. Soda-water has increased the sale of whisky enormously. The man who drinks whisky for the sake of its flavour rarely mixes it with aerated water. A bubbling liquid, endowed, moreover, with stimulating properties, proves to be a singularly attractive beverage and harder to resist than the non-sparkling fluid. What is this charm of effervescence? Champagne would be miserable stuff without it and beer that is not brisk is not only unattractive but unwholesome. Probably there are two reasons for it; first of all, carbonic acid gas gives piquancy to a beverage, a briskness to it and an acid taste; moreover effervescence implies freshness, and the eye is pleased with the continuous succession of tiny bubbles upwards through the liquid. Secondly, there are reasons for believing that the effervescent properties of a liquid promote digestion in two ways, firstly, by the carbonic acid acting as a stimulant to the movements of the stomach and, secondly, by assisting in the disintegration of the contents of the stomach. Certainly the alcohol in an effervescing liquid is more rapidly diffusible than in a still liquid. Champagne exhilarates more quickly than is the case with still wine. On the other hand, it may be undesirable to distend the stomach with so much gas—seeing that distension may lead to the embarrassment of the heart's action. It has also been stated that carbonic acid gas is rapidly absorbed from the stomach and that it may thus induce a condition of cyanosis, in which an excess of this gas is invariably found in the blood. In certain cases therefore the use of aerated water should be avoided. On the whole, however, it is probable that the moderate indulgence in pure aerated water is not only without prejudice to the health but serves as an aid to digestion when such help is needed. The frequent consumption of immoderate quantities of aerated water may safely be condemned, as such a practice undoubtedly has possibilities for evil.

HÆMORRHAGE FROM THE MIDDLE MENINGEAL ARTERY.

IN the *Scottish Medical and Surgical Journal* for February Mr. J. Hogarth Pringle has published an important paper on hæmorrhage from the middle meningeal artery, based on 15 cases under his care. He points out that the vessel may be torn at a long distance from the fracture of the skull and even on the opposite side. In two of his cases the vessel was torn on the opposite side to the fracture, to which the term injury by contre-coup might be applied. The cardinal point in the diagnosis is the "lucid interval" between the symptoms of the concussion due to the injury and the symptoms of compression due to the hæmorrhage. But this may be absent or no history of its occurrence may be forthcoming. It is recorded in 32 out of 63 cases collected by Mr. W. H. Jacobson. Its duration varies from 15 minutes to four days, depending on the rate at which blood is extravasated. Its absence may be due to direct injury to the brain so severe that compression is at once produced or to bursting of the dura mater at the time of the accident so that blood escapes directly into the subdural space, the "épanchement en bissac" of Marchant. On the other hand, there may be no stage of compression. This may be due to the external escape of blood through a fracture and wound of the scalp. Again, the primary stage of concussion may be absent, and the patient may remain conscious from the time of the injury up to the time of compression. Lastly, there may be no stage of compression or concussion, the patient remaining perfectly conscious the whole time. This condition was observed by Mr. Pringle in the following case and does not appear to have been previously recorded. On June 7th, 1902, a man, aged 21 years, was admitted into hospital, having been struck on the head with a heavy weight. He was bleeding from the left ear and nostrils. The left side of the face was completely paralysed but there was no other paralysis. A large quantity of blood was vomited. On the following day there were pain in the back of the head and much discharge of reddish fluid from the left ear. The left membrana tympani was ruptured and there was total deafness on this side. The temperature was 99° F., the pulse was 92, and the respirations were 24. On the 10th the temperature was 100° and on the 11th it was 103°, while the pulse was 96 and the respirations were 20. The patient became very restless, at 6 A.M. he was unconscious, and at 7 A.M. he died. The necropsy showed a large dural clot from the posterior branch of the right middle meningeal artery, early basal meningitis, and a fissure on the left side of the base of the skull dividing the seventh and eighth nerves. In many cases of hæmorrhage from the middle meningeal artery there is evidence of localised pressure on the brain in the form of paralysis on the opposite side. Weismann found that this was noted in 65 out of 257 cases. Cases have been published in

which the paralysis and hæmorrhage were on the same side, but their explanation is not clear. In six out of Mr. Pringle's 15 cases the pupils were unequal and in all of these the wide pupil was on the side of the hæmorrhage. An important sign is hæmatoma of the scalp, especially in the temporal region. It indicates one site where violence has been applied, but it may render palpation of the skull so difficult that a depressed fracture may be missed. Mr. Pringle recommends that when a hæmatoma is present in a comatose patient, and especially if there be definite paralysis, an incision ought to be made so that the skull beneath may be examined. In five of his cases a hæmatoma was present and was incised, with the result that in four a fracture was found crossing the line of the meningeal artery and after trephining an extradural clot was removed; in the fifth case there was no fracture but trephining showed a large subdural clot.

A SIGHT-TESTING OPTICIANS BILL.

THE *Optician and Photographic Trades Review* of April 27th contains the draft of a Bill which deserves the attention of the profession. The Bill is entitled "An Act to Regulate the Practice of Opticians as regards the Testing of Sight" and it is explained that sight-testing means the science of measuring the refraction of the eye and the adaptation of lenses for aiding defective sight and the practice of the said science. The chief provisions of the Bill are that a company or central board shall be formed which shall establish examinations in sight-testing and shall keep a register of the successful candidates. Those who are registered may practise sight-testing in any part of the kingdom, but may not assume any title indicating or implying that they are members of the medical profession, and may not administer any drug for the purpose of paralysing the accommodation of the eye. The central board is to consist of two members to be appointed by the Lord President of the Privy Council; three medical practitioners, two of whom are to be approved by the Royal College of Physicians of London and one by the Royal College of Surgeons of England; four persons to be appointed by the Master, Wardens, and Fellowship of the Company of Spectacle-makers of London; four to be appointed by the British Optical Association; and four persons to be elected by direct election by the registered sight-testing opticians. The duties and powers of the central board are also defined in the Bill, amongst which are the regulation, supervision, and restriction within due limits of the practice of sight testing by opticians. In considering the objects and intentions of this Bill and the powers that it confers on those who, if it be passed, will style themselves registered or certificated members of the company of sight-testing opticians, it is not difficult to see that it opens the door to irregular medical practice. It is true that it is explicitly stated that registration does not enable a member of this association to assume any name, title, or designation implying that he is by law recognised as a medical practitioner, or that he is qualified to practise ophthalmic medicine or surgery, but that this new society, hanging on, as it were, to the outskirts of the medical profession, is liable to abuse is sufficiently demonstrated by the duty which is imposed on the central board of "regulating, supervising, and restricting within due limits the practice of sight-testing or testing sight by opticians." Who, we may ask, is to carry out this wise provision and what are "due limits"? We do not exactly understand what the society has in view. As makers and sellers of spectacles and other optical instruments it is right and proper that they should comprehend the mode of making lenses, their various forms, their action upon light, the accuracy and perfection with which their surfaces are ground and polished, the adaptation of the frames to the face of the wearer, and the nature and properties of prisms. These and similar points may well engage their attention and with them they should be thoroughly familiar; but when they proceed to deal with the practical application of the knowledge which they have acquired we do not hesitate to say that a far wider and more intimate acquaintance with the functions of the eye as an organ dependent upon the condition of the body generally is demanded than can be obtained without a regular medical education. In the same number of the *Optician* is an intelligently written article by Mr. F. P. Simmons on Accommodation and Convergence in which it is stated that "an accurate knowledge of the anatomy and physiology of the parts involved is absolutely necessary," and that "without that knowledge the rest of the article will prove almost meaningless." We are entirely in accord with Mr. Simmons, but an accurate knowledge of the anatomy and physiology of the parts of the eye involved in accommodation and convergence implies a knowledge of the structure and functions of striated and of unstriated muscle, of motor and sensory nerves, and of much more than this. Where and when is the young sight-testing optician to gain such information if not, as the medical student has now to do it, in the dissecting room on the human subject and in the physiological class room and laboratory? Lastly, how can he venture to apply his knowledge of physical laws, however perfect and adequate it may be, to the customer who enters his shop, without the least acquaintance with the principles of medicine and surgery? Then, again, in regard to the constitution of the examining board, we very much doubt whether the Colleges of Physicians and Surgeons will feel disposed to elect three of their members to sit on a board the greater part of the work of which would be of a purely mechanical nature and who, in cases of differences of opinion in regard to the propriety of the questions put to the candidates, would be easily out-voted. Suppose some perfervid optician were to propose such a question as "Follow the course of a beam of light through the media of a myopic eye and state the reasons which would lead you to supply or to withhold the lenses appropriate to the correction of that condition." This is not an unreasonable question for a mixed body of physicians, a surgeon, and opticians to give. What kind of an answer would be expected from the candidate? And supposing the examination successfully passed, would not the certificated sight-testing optician be swayed against his better judgment, perhaps, to give his customer a pair of expensive glasses, or would he say to him, "I could supply you with a pair of glasses, or possibly two pairs, which would give you excellent vision both for reading and for distance, but I see from your state of health and from what you have told me in regard to your occupation, habits, and general state of health that it would be highly imprudent to wear them." Many questions of a similar character could be put which the opticians might regard as legitimate, whilst the medical members of the board of examiners might demur to them. Is the propriety of the question to be determined by voting?

PYORRHŒA ALVEOLARIS.

A VALUABLE contribution by Mr. K. W. Goadby on the disease generally known as pyorrhœa alveolaris appears in the March issue of the Transactions of the Odontological Society. At the outset of the paper the writer refers to some of the names that have been applied to chronic suppurative conditions of the margins of the jaws and he suggests what certainly seems a more descriptive term—namely, alveolar osteitis. Mr. Goadby has made a long and extended research on the disease and has examined bacteriologically 300 cases, in addition to a number of other

examinations of tissue removed from the alveolar margin in cases of chronic and long-standing pyorrhœa. In the pus from "pyorrhœa" pockets Mr. Goadby has not observed the amount of epithelial débris described by several observers, but his examination of stained (Leishman) film preparations shows that a large number of cells are to be met with of the character of pus corpuscles, polymorphonuclear leucocytes, and eosinophile cells, and he thinks that these cells generally partially disintegrated may have been mistaken for epithelium. From a bacteriological point of view he suggests the division of cases of alveolar osteitis into two main classes, the first in which staphylococci occur with regularity and the second in which the staphylococcus aureus is not found but in which a number of other bacteria occur regularly. As a sub-group to the first division he includes cases in which the staphylococcus aureus is not present but in which either the staphylococcus albus or a small staphylococcus differing from both it and the staphylococcus aureus in many particulars is to be found. Two special organisms he finds constantly present the rôle of which seems to be associated with the formation of the peculiar sticky and mucilaginous pus that is often found, as both these bacteria produce a very large amount of mucilaginous growth when grown in artificial media. The first of these organisms is a bacillus, short and somewhat thick, about three times as long as it is broad, but in certain circumstances it grows out into quite long threads. From its general characters he thinks that it is more likely to be related to the bacillus cloacæ of Jordan rather than to any other of the described organisms of mucilaginous habit and it is quite possible that it is a member of the cloacæ group and gains entrance to the mouth through the medium of either water or bread. The second of the two bacteria, which is frequently found in the deep layers of the pockets as well as in the hypertrophied gum tissue, is a coccus and has been already described by Mr. Goadby as the staphylococcus viscosus. A special feature of this organism is the curious constitution of the colonies: they are extremely hard and if an attempt is made to remove them with a platinum needle they come away entire. In the treatment of alveolar osteitis and suppuration of the neighbouring sinuses Mr. Goadby has had success with the injection of vaccines, and he gives a detailed account of the methods which he has adopted.

THE ADULTERATION OF BUTTER.

SOME of the evidence recently given before the House of Commons Committee on the butter trade is bringing to light a perfectly infamous state of things which abundantly confirms what we said in this journal three months ago, that science is being most scandalously used in the service of fraud. There can be no denying the fact that there are men who in the name of science aid and encourage the practice of adulteration and who place their knowledge and skill at the disposal of manufacturers knowing full well that their advice and suggestions are to be applied with the deliberate aim of defeating the detection of fraud and of cheating the public. In the case of butter the analyst's criteria are being completely destroyed because foreign fats are being put in which respond perfectly to the tests applied for genuine butter. Water, of course, can be detected easily enough in the analyst's laboratory but it is evident that the public are so readily deceived that they purchase for genuine butter an article containing half its weight of water. Why in the name of all that is honest does not the Government at once proceed to appoint a court of reference to deal summarily with this and many other matters which threaten to reduce the Sale of Food and Drugs Act to a dead letter? Nothing but very drastic procedure is likely to cope with the exceedingly subtle methods of adulteration that are extensively practised at the present day. We are not sure that the proposal in the case of foreign fats in butter to make the addition of a small proportion of certain readily recognised substances compulsory would not be the most effectual way of stopping this fraud and of bringing this class of offender to book. The origin of production of foreign fats used for the adulteration of butter surely can easily enough be traced and a supervision be kept over the goods which the manufacturer sends out from his factories. Then let these goods be ear-marked so that there may not be the possibility of mistaking them for butter. Some such system, we believe, has met with success in Germany and in the United States and the question of adopting a similar scheme in this country deserves the most serious consideration of our legislators, especially in view of the scandalous scale on which butter is being tampered with at the present time.

METASTASIS OF THE THYROID GLAND.

FROM time to time cases have been reported in which an ordinary goitre which has existed for a long period and has never given rise to any symptoms suggesting malignancy has suddenly become widely diffused. Dr. F. X. Dercum records in the *Journal of Nervous and Mental Disease* for March, a case of thyroid metastasis in which the chief deposit was in the spinal column. He refers to cases described by Cohnheim and others which show that secondary tumours of thyroid structure may occur without any increase in the volume of the thyroid gland and without any symptoms attracting attention to the gland. In the present instance the patient, a female, aged 56 years, had been operated upon six years before she came under notice for removal of a large goitre. She made a good recovery. To the naked eye the goitre appeared simple in type and resembled the normal gland. A year after the operation the patient began to experience severe pain in the left arm and later throughout the body and limbs. This was accompanied by gradual wasting of the muscles of the arms. On examination she was found to be emaciated, the legs and thighs were flexed and contracted, and attempts to move them caused pain. There were a number of ecchymoses about the abdomen and legs and in particular an ecchymotic area, three inches in diameter, existed on the left of the spinal column over the floating ribs, and along the column were several areas of superficial ulceration. Attempts to move the patient in any way caused much pain. Both arms and hands showed marked wasting, the left side being the more affected. Later, the atrophy became more pronounced and extended to the muscles of the lower extremities, especially on the left side; the muscles of the face became similarly involved, though to a lesser degree. Tactile sensations and those of pain appeared to be normal. The patient mistook warmth for cold on the left thigh; at a later stage analgesia or hypalgesia was present over the trunk and lower extremities and the temperature sense was lost over the trunk and right lower extremity. Trophic changes appeared in the form of ulceration of the skin of the feet and thickening of the right ilium and left trochanter. In addition to the above conditions the vertebral column presented two prominences, respectively in the thoracic and lumbar regions, and a tumour about one and a half inches in diameter involved the sternal end of the left clavicle. The patient died about eight months after the date of the first examination. At the necropsy tumours were found involving the head of one clavicle, several of the ribs, and the skull and certain of the vertebræ, more especially the fourth and fifth cervical vertebræ, at which point the cord was compressed. Attached to the trachea were similar small tumours. All these growths appear to have been alike and to have resembled the principal growth in the cervical region,

which was a gelatinous mass, found on microscopical examination to be composed of typical thyroid tissue, alveoli filled with colloid material and lined with cubical epithelium. On section of the spinal cord marked ascending and descending degeneration was found of a nature to account for the motor and sensory changes noted during life. Reference is made to an account published by Patel in 1904 of 18 cases of thyroid metastases collected by him, the growths being found especially in the short and flat bones. In 13 of these the tumours were regarded as benign; in the remaining five no information as to their benign or malignant character was forthcoming.

PROVIDENT DISPENSARIES AND THE PROFESSION IN MANCHESTER.

AN important meeting of the medical men residing in Moss-side and adjacent districts was held in Manchester on May 18th. A large proportion of the local members of the profession was present. The meeting was called at the instance of the chairman and secretary of the Manchester West Division of the British Medical Association, who had received information that the committee of the Hulme Provident Dispensary was trying to enlarge its sphere of influence in the direction of Moss-side and Rusholme. A full discussion of the methods adopted by the Provident Dispensaries Association in seeking to extend its connexion took place and the recent action of the medical men of the Rusholme district in resisting the establishment of a branch dispensary in their midst was quoted with approval. The following motions were unanimously agreed to:—

1. That we, medical practitioners residing in Moss-side and neighbourhood, and present at this meeting, having learnt that the committee of the Hulme Provident Dispensary is endeavouring to obtain the services on its staff of a resident practitioner from Moss-side, hereby pledge ourselves to have no connexion whatever with the movement, and call upon all medical men loyally to support us in our action.
2. That this meeting resolves that a copy of the foregoing resolution shall be sent to every medical practitioner in the district, and to the honorary secretaries of the Manchester and Salford divisions of the British Medical Association. Also that a report of the meeting shall be forwarded for publication in THE LANCET and the *British Medical Journal*.

A small committee was selected to canvass the members of the profession who were not present at the meeting and, if needful, to interview the clergy and other influential residents in the neighbourhood.

OSSIFICATION OF THE FONTANELLES AND CLOSURE OF SUTURES A CAUSE OF DIFFICULTY IN DELIVERY.

DIFFICULTY in the delivery of the fœtus as a result of ossification of the fontanelles and closure of the sutures of the skull is not a common complication of labour. It is rare, indeed, to experience any difficulty in the delivery of a child, even with premature closure of the sutures, weighing less than 10½ pounds, provided that the pelvis is a normal one. In a case of this kind related by Mr. T. Leahy-Lynch in THE LANCET of May 19th, p. 1386, the child weighed eight and a half pounds and was therefore not unduly large but the head was completely ossified and delivery was very difficult. In such cases some estimate as to the size of the child's head cannot infrequently be obtained by noting the age and physique of the parents, the size of the body of the fœtus, the number and duration of the pregnancy, and the size of the parents' heads, especially, according to some observers, the size of that of the mother, or, according to other observers, the size of that of the father. An etiological factor of importance in Mr. Leahy-Lynch's case is the age of the mother—namely, 33 years—and the fact that she was a primipara, since large children are especially frequent in elderly primiparæ. Another fact which increases the difficulty of delivery in such cases is that it is usually large heads which are unduly ossified. The presence of Wormian bones is not infrequently associated with this condition and owing to the impossibility in such a case of any moulding of the head occurring the dystocia may be extreme; several cases of stillbirth attributed to this abnormality have been recorded. In male children the trouble is likely to be still greater, as in them the biparietal diameter is usually larger than in female children. The diagnosis of this condition may be quite impossible before the birth of the child. It may, however, be suspected if with a normal pelvis and a cephalic presentation there should be undue delay in the descent of the head. In such a case the practitioner must rely on a careful examination through the abdomen and an attempt should be made to determine the size of the head by vaginal examination, the half or whole hand being employed if necessary. The facts which should be specially noted are the size of the anterior fontanelle, and if it is open the distance between the anterior and posterior fontanelles, the hardness of the bones of the head, and the width of the sutures. These data, together with a consideration of the other etiological factors to which we have already alluded, such as the age of the parents and the size of their heads, may help the medical attendant in arriving at a correct conclusion. The treatment of the case will depend on the degree of the disproportion between the head and the pelvis. Delivery by forceps or after version may be successful, but as the exact cause of the dystocia is only realised in many instances after prolonged attempts have been made to deliver embryotomy may be required if the conditions are unfavourable for the performance of a Cæsarean section.

TRINITY COLLEGE, DUBLIN: POST-GRADUATE CLASSES.

THE syllabus of the third annual post-graduate course of instruction in the School of Physic, Trinity College, Dublin, lies before us. The subjects to be dealt with include medicine, surgery, gynæcology, diseases of the eye, diseases of the throat, nose, and ear, diseases of the skin, pathology, anatomy, x ray work, and cystoscopy. The classes are so arranged that there is no overlapping, so that it is possible for each member to attend the entire course. At the end of the syllabus is a time-table in which the work is mapped out for each day. An exceptional feature of this course is that a limited number of the members of the class may reside in college rooms and draw commons for a very moderate sum. As the number of rooms available is limited and several are already engaged qualified men who propose to take out this course and wish to reside in college should communicate at once with the honorary secretary, 27, Lower Fitzwilliam-street, Dublin.

NATIONAL CONFERENCE ON INFANTILE MORTALITY.

SOME particulars have now appeared relative to the subjects to be considered at the National Conference on Infantile Mortality which will be held in the Caxton Hall, Victoria-street, London, S.W., on June 13th and 14th. The King and Queen are patrons of the Conference. The president of the Conference is the Right Hon. John Burns, M.P., President of the Local Government Board, the chairman is Mr. Evan Spicer, chairman of the London County Council, and the vice-chairman is Mr. William Bilsland, Lord Provost of Glasgow. The other officers are as follows: Honorary joint secretaries, Mr. Alderman Broadbent, Mayor of Huddersfield, and Councillor W. Fleming Anderson, chairman of the health committee, Glasgow; honorary joint treasurers, Dr. Samson G. Moore, medical officer of health of Huddersfield, and Dr. A. K. Chalmers, medical officer of health of Glasgow; secretary, Mr. J. J. McIntyre, solicitor, City

Chambers, Glasgow. The work of the Conference will commence at 10 A.M. each day. An inaugural address will be delivered by the President. The papers to be read in the sections will include the following: The Teaching in Schools of Elementary Hygiene in Reference to the Rearing of Infants, by Dr. James Niven (Manchester); the Appointment of Qualified Women, with special reference to the Hygiene and Feeding of Infants, by Dr. J. Spottiswoode Cameron (Leeds); the Supply of Pure or Specially Modified Milk for the Feeding of Infants, by Dr. G. F. McCleary (Hampstead); the Influence of Alcoholism on Infantile Mortality, by Professor G. Sims Woodhead; Antenatal Causes of Infantile Mortality, including Parental Alcoholism, by Dr. J. W. Ballantyne (Edinburgh); the Relation of Premature Births to Infantile Mortality, by Dr. James R. Kaye (Wakefield); Infant Life Insurance, by Councillor W. Fleming Anderson (Glasgow); Earlier Registration or Notification of Births, by the Mayor of Huddersfield; Employment of Women Before and After Confinement, by Dr. George Reid (Stafford); the Regulation of the Placing of Infants out to Nurse and the Amendment of the Infant Life Protection Act, by Dr. Moore (Huddersfield); the Chemistry of Infants' Foodstuffs, by Mr. James Knight (Glasgow); the Increase of the Powers of Local Authorities in regard to Milk-supplies, by Dr. Chalmers (Glasgow); and the Operation of the Midwives Act in England, with a view to its Extension to Scotland and Ireland in Relation to Infantile Mortality, by Dr. M. Merry Smith (Manchester) and Dr. Chalmers. Any person wishing to become a member of the Conference should make early application to the secretary. The price of the tickets is £1 1s., entitling members to a copy of all publications. Railway return tickets to London will be issued at a single fare and a quarter, available from June 12th to 15th inclusive.

SIR CONSTANTINE HOLMAN AND THE TREASURERSHIP OF EPSOM COLLEGE.

THE governors of Epsom College have received a letter from Sir Constantine Holman resigning the office of treasurer, which he has held for 19 years. Sir Constantine Holman states that he is no longer equal to the responsibilities of the office which impose a serious strain on him and he asks to be relieved from duty at the ensuing annual general meeting of the governors. It is difficult to realise that so long a period as 19 years has elapsed since Sir Constantine Holman was requested to take the office which he is now giving up. At that period the school was just passing through most troublous times and the finances of the charitable side of the institution were in a far from satisfactory condition. When we compare the present situation with that of 1887 it is gratifying to note the progress which has been made in every department of the school and the institution. Naturally the financial position was the first matter to which the new treasurer's attention was devoted and he instituted a system of accounts under the direction of a chartered accountant, by means of which every facility was at once given for comparing annually the average receipts and payments as well as the cost per head of the boys. The council, knowing exactly the financial position from day to day, was able to manage the College in a generous manner and improvements were made from time to time in various departments as funds justified the developments. About five years after Sir Constantine Holman became treasurer we had the pleasure of inaugurating what we then called the "Proposed Non-residential Pensioners' Fund" by handing to him a cheque for £1000, the object being to enable pensioners to reside with their friends and relatives with an increased annuity instead of being compelled to reside at Epsom to live, ultimately to die, far away, perhaps, from all old associations. The scheme eventually proved a success, and thanks to the benefactions of the late Dr. Bowen and other generous persons all the pensioners now receive an increased annuity, their old quarters at the College being used for scholastic purposes. Sir Constantine Holman leaves to his successor, who will have a fine example of energy and pertinacity to emulate, a flourishing school with rising numbers and a prosperous foundation. During the past 19 years a lower school, capable of accommodating 100 junior boys, has been built, the chapel has been enlarged, close upon 30 acres of land have been purchased, the swimming-bath has been enlarged and remade at a cost of £1000, a laundry has been erected in order to prevent the inroad of infectious disease, and finally the drainage has been relaid in the most approved method at the enormous cost of £8000. A new Act of Parliament has been obtained which has set at rest for all time the much debated question whether the sons of others than medical men could be admitted to the school, with the result that at the present time there are a large number of such boys, while the official title of the institution has been changed to that by which the school has been known ever since its foundation—namely, Epsom College. This is a good record for 19 years in the life of an institution only just 50 years old, and it is an open secret that a great proportion of this progress has been due to Sir Constantine Holman's capacity for work, his zeal, and his personal influence.

THE THOMAS YOUNG LECTURES IN MEDICINE.

IT is announced that Dr. William Osler, Regius professor of medicine at the University of Oxford, will deliver the Thomas Young lectures in medicine in St. George's Hospital Medical School on June 6th, 7th, 8th, 9th, 11th, and 12th at 5 P.M. The first lecture will commence with a reference to the life and work of Dr. Thomas Young, after which some points relative to the anatomy of the abdomen will be briefly considered. The second lecture will deal with methods of examining the abdomen. The third, fourth, fifth, and sixth lectures will be devoted to types of abdominal tumidity—namely, the third lecture to distensions due to conditions of the abdominal wall, the fourth to the dilated stomach, the fifth to dilatation of the intestines, and the sixth to dilatations of the uterus and the bladder. The lectures are free to members of the medical profession and medical students on the presentation of their cards.

KERNIG'S SIGN IN HERPES ZOSTER.

IN the *Archives Générales de Médecine* of Feb. 27th Dr. Raymond Belbeze has published some important observations which throw light on the pathology of herpes zoster. In 19 cases of herpes zoster under his care he examined the patients for Kernig's sign carefully and found it present in two. A robust woman, aged 60 years, had herpes zoster which extended from the third and fourth lumbar spines around the left side of the abdomen to the middle line. There was intense neuralgic pain. On examining for Kernig's sign the flexion of the knees could be overcome only by using considerable force. The sign began to diminish on the third day of the eruption and had disappeared on the fifth. In the second case the patient was a woman, aged 65 years, who, except for various neuralgias, enjoyed excellent health. When seen she had herpes zoster extending from the first and second lumbar vertebræ to the middle line. The eruption had appeared during the previous night. Kernig's sign was well marked. Two days later the sign and the pains were found to have disappeared simultaneously. The interest of these observations lies in the fact that they support the view that herpes

zoster is due to a lesion of the central nervous system, for Kernig's sign is evidence of meningeal irritation.

THE Cavendish lecture of the West London Medico-Chirurgical Society will be delivered on Friday, June 8th, at 8.30 P.M., in the town hall, Kensington, W., by Sir William Macewen who has selected as his subject Some Points on the Surgery of the Lung. The President and council of the society will hold a conversazione on the occasion, when there will be a medical and surgical exhibition, music, and smoking.

A TELEGRAM from the Governor of Hong-Kong received at the Colonial Office on May 21st states that for the week ending May 19th there were 90 cases of bubonic plague reported and 83 deaths from the disease.

Lieutenant-Colonel Sir Havelock Richard Charles, I.M.S., K.C.V.O., has been appointed by the Prince of Wales a physician in ordinary to His Royal Highness.

THE annual banquet of the Coroners' Society of England and Wales will take place at the Holborn Restaurant, London, on Thursday, June 14th, at 6.30 for 6.45 P.M.

WE understand that Mr. Charters J. Symonds will be a candidate at the forthcoming election for the Council of the Royal College of Surgeons of England.

IT is announced that a Royal Commission will be appointed to inquire into the working of the Cruelty to Animals Act.

THE EARL OF CROMER'S REPORT ON EGYPT FOR 1905.

(*Concluded from p. 1350.*)

ONE of the chief causes of insalubrity in Egypt consists in the birkets, or stagnant pools, which are to be found in the immediate vicinity of every village. Owing to the flatness of the surface in Middle and Lower Egypt the fellah when building his hut has to dig a hole in the ground somewhere or other in order to obtain the necessary material, but he invariably does so as close as he possibly can to his prospective dwelling place. For this he has two reasons: in the first place, he wishes to economise the cultivable land; and, secondly, he likes to have his supply of drinking water close at hand. Now, the birket is the dumping place for whatever filth is not retained on the premises and into it also the drains debouch which are in connexion with the mosque ablution basins and latrines, so that the quality of the water can be imagined. For some years *couleur-de-rose* statements regarding these death-traps have been published but up to the present little or no improvement has taken place. There is now, however, some prospect of real work being done, for in his report Lord Cromer says that a sum of £E.5000 has been provided in the estimates with a view to make a commencement in the direction of filling up these pools. A selection has been made of some of the worst of the birkets in Lower Egypt and work will be commenced very shortly.

There are few countries in the world where vaccination is more efficiently performed than it is in Egypt, but unfortunately, as already said, the operation cannot be enforced among foreigners. In 1905 the number of small-pox cases reported was 3979 against 4219 in 1904. According to Lord Cromer the Vaccine Institute continues to do excellent work. Successful results were obtained in 95 per cent. of primary vaccinations and in 81 per cent. of secondary vaccinations. 426,889 successful vaccinations were performed during 1905 and 408,981 in 1904. The other infectious diseases reported were as follows: measles, 3013 cases; typhus and typhoid fevers, 2653 cases; diphtheria, 256 cases. As regards the last-mentioned disease Sir Horace Pinching writes: "The preventive inoculation of children who have been in contact with diphtheria cases with anti-diphtheritic serum, which gave such excellent results during 1904, was continued. Many parents, however, refused to allow their children to be inoculated, though had they been subjected to this treatment the lives of many of these unprotected children, who subsequently contracted the disease, might have been saved and the spread of the infection checked."

On the subject of the plague Lord Cromer writes: "During the past year there were only 266 cases of plague throughout the whole of Egypt, of which 181 terminated fatally; as compared to 855 cases, with 501 deaths, in 1904. At the present moment (Jan. 18th) the country is entirely free from the disease, but it will very probably reappear in some of the towns later in the year. The fact that the disease appears to persist in Alexandria to a greater extent than in any other town in Egypt is believed to be due to the fact that the drains of that town are infested with rats. Energetic measures are being taken to destroy them but the difficulties to be encountered are considerable." During the plague epidemic which lasted from 1834 to 1843 the number of deaths was 12,380. During the present epidemic, which began in 1899, the number has been 647 only. Lord Cromer is of opinion that the greatly lessened mortality is due to "the more stringent measures recently taken to check the disease."

The new Pharmacy Law which has now been in force for a year has for the most part given satisfaction. At first it met with some opposition, but the public soon grew to perceive that it pressed hardly on those pharmacies only which were conducted in an irregular manner. There are at present 258 licensed apothecaries in Egypt. During the past year 285 inspections were made under the new law, with the result that 40 pharmacies were closed, some by order of the law courts and others by their own proprietors in order to avoid further proceedings. Very great care has to be exercised in granting authorisations to practise pharmacy to foreign applicants. In three cases lately the diplomas tendered for examination were found to be skilfully executed forgeries, while a fourth applicant presented as his own the diploma of a dead relative. The right of inspection conferred on the Egyptian sanitary authorities by the new law is a great benefit to the public of all nationalities. In the early part of 1905 test purchases of expensive drugs were made in 16 shops and in seven instances cheap substitutes were supplied in place of the articles demanded. The vendors were in each instance proceeded against. This new pharmacy law was first mooted in 1885. 20 years passed before the consent of the Powers could be obtained.

Under the head of Ophthalmia, Lord Cromer says: "The two travelling camps instituted with the money provided by the Cassel Trust continued their work during the past year. A very large number of cases were treated, but Dr. MacCallan reports that 'the number of new cases treated represents but a fraction of those applying for treatment, but represents the maximum number that it was possible to treat satisfactorily with the staff at my disposal.'" In order to supplement, and eventually to supersede, the tent hospitals which have been provided by Sir Ernest Cassel's liberality the Egyptian Government has decided to erect permanent ophthalmic hospitals in all the principal towns, and so that a commencement may be made a sum of £E.7000 has been provided in the estimates for the current year. With reference to this very important reform Dr. A. F. MacCallan writes as follows:—

> The scheme which has now been adopted will provide for a special ophthalmic hospital in each of the fourteen Moudirieh towns, and, with an amount of work going on in each of them proportionate to that done at the present time, about 30,000 new cases should be seen and 15,000 operations performed every year. An appreciable annual and progressive amelioration of the ophthalmic condition of the country may then be confidently anticipated.

Of all the reforms that have been accomplished in Egypt under Lord Cromer's fostering care there are none more thorough, and few of greater importance, than the complete renovation of the School of Medicine. 20 years ago it was worse than useless as an educational establishment, whereas now, to use Lord Cromer's words, it "possesses a staff of highly qualified professors, under whose auspices various scientific work of much interest and importance was carried out during the past year." "As the result," he adds, "of some negotiations, in which Mr. Reginald Harrison took a leading part and materially assisted the cause of Egypt, it has been arranged that a

delegate of the British Royal Colleges of Physicians and Surgeons should be present annually at the examinations held in Cairo, and that the students who pass those examinations when the delegate is present should enjoy the same advantage as if the corresponding examinations had been passed in London." There are at present 116 students in the Cairo School, of whom two are attached to the pharmaceutical section. 37 new students joined last year and 17 obtained diplomas.

BRITISH MEDICAL BENEVOLENT FUND.

AT the monthly meeting of the committee held on May 15th 17 cases were considered and sums amounting to £131 voted in relief to 14 of the applicants. An abstract of the cases assisted is appended. The report of the annuity subcommittee was received and adopted, six candidates being elected to annuities of £20.

Mr. E. PARKER YOUNG, the chairman, referred in sympathetic terms to the recent death of Dr. M. Baines, one of the oldest friends of the Fund, and a vote of condolence with the family was passed.

1. Widow, aged 59 years, of L.R.C.P., L.R.C.S. Edin., who practised in South Wales. Income a pension of £20 a year. Two sons, but only able to give very slight help. Husband died a few months ago after a long illness, during which the practice so dwindled away that nothing could be obtained for it. Recommended by the Rev. W. Whiteley. Vote £6 in two instalments.

2. Widow, aged 41 years, of L.R.C.P., L.R.C.S. Edin., who practised in Kent. No income. No children. Is given a temporary home by a relation with very limited means. Husband, recently deceased, had a long illness which quite exhausted his savings. Recommended by Dr. Baines. Voted £10 in two instalments.

3. Daughter, aged 59 years, of late M.D. Lond., F.R.C.S. Eng., who practised in Derbyshire. Since father's death 20 years ago has received the rents of some cottages; income is now reduced by increasing rates, necessary repairs, and loss of tenants to a few shillings a week. Recommended by Mrs. Alice Jackson. Voted £10 in two instalments.

4. Daughter, aged 37 years, of late M.R.C.S., L.S.A., who practised in Sussex. Until a few years ago supported herself as a governess but is completely broken down in health and can now only occasionally do a little needlework. Recommended by Dr. Heywood Smith. Voted £10 in two instalments.

5. L.R.C.P., L.R.C.S. Edin., aged 73 years, used to have a good practice in London but has gradually lost it and is now practically destitute after some months' illness. Slight help from children. Recommended by Dr. J. Dodd Swallow, honorary local secretary. Voted £12 in 12 instalments.

6. Daughter, aged 50 years, of late M.R.C.S., L.S.A., who practised in Suffolk. No income; has supported herself for many years as a companion or governess but now finds it impossible to obtain a fresh post. Recommended by Professor Howard Marsh. Voted £10 in ten instalments.

7. Daughter, aged 59 years, of late M.R.C.S., L.S.A., who practised in South Wales. No income; physical afflictions make earning a livelihood impossible. Recommended by Mrs. G. M. Hill. Voted £12 in 12 instalments.

8. Daughter, aged 58 years, of late L.R.C.S. Glasg., who was a surgeon in the Royal Navy. Only income two small pensions amounting to £29. Unable to undertake any permanent employment on account of bad health. Relieved seven times, £55. Recommended by Dr. George Eastes. Voted £5 in one sum.

9. Daughter, aged 61 years, of late M.D. Aberd., F.R.C.S. Edin., who practised in Trinidad. Maintained herself for many years as a governess and exhausted small savings by helping an invalid brother and an aged aunt. Ill health now prevents applicant earning a living and she is dependent on a sister who is a housekeeper. Relieved five times, £60. Recommended by Mr. A. Phillips Hill, honorary local secretary. Voted £12 in 12 instalments.

10. Widow, aged 61 years, of L.S.A., who practised in Derbyshire. No income; bad health. Slight help from a son earning 35s. a week as a clerk. Relieved five times, £54. Recommended by Dr. J. M. Hobson. Voted £12 in 12 instalments.

11. Widow, aged 43 years, of L.R.C.P., L.R.C.S. Edin., who practised in Staffordshire. Practically unprovided for at husband's death three years ago. Two children, aged 15 and 11 years. Receives help from friends. Relieved once, £10. Recommended by Professor T. Annandale. Voted £10 in two instalments.

12. M.R.C.S., L.S.A., aged 79 years, who is bedridden with hemiplegia and senile gangrene. Is an annuitant of this Fund and of Epsom College. Voted £5 as a special grant.

13. Daughter, aged 61 years, of late M.R.C.S., who practised in Sunderland. Only income a pension of £20. Indifferent health and sight failing. Relieved 11 times, £94. Recommended by Mr. G. B. Morgan. Voted £5 in one sum.

14. Daughter, aged 59 years, of late M.R.C.S., who practised in London. No income; tries to support herself by needlework but has injured her right arm. Relieved 14 times, £104. Recommended by Mr. T. J. Verrall, late honorary local secretary. Voted £12 in 12 instalments.

UNIVERSITY OF LIVERPOOL.—The lectures on Cytology at the University of Liverpool will be continued in the Physiological Lecture Theatre on Tuesday, May 29th, and on the following Tuesdays until further notice at 3 P.M. These lectures are free.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

TUESDAY, MAY 22ND.

THE eighty-third session of the General Council of Medical Education and Registration opened at the offices, 299, Oxford-street, W., on May 22nd. Dr. DONALD MACALISTER, the President, occupied the chair.

New Member.

Before the ordinary business was proceeded with Dr. J. Little introduced Dr. LEONARD KIDD as Direct Representative for Ireland.

The President's Address.

[The PRESIDENT, after welcoming Dr. Kidd and referring warmly to the services of the late direct representative for Ireland, Sir William Thomson, continued:—]

In November I called your attention to the probability that some of the Canadian provinces might, in pursuance of the amending Medical Act of 1905, make application for the extension to them of the privileges of medical reciprocity with the United Kingdom. The first to seek admission is the province of Nova Scotia. His Majesty the King has been satisfied that the provincial laws afford an equitable basis for the grant of reciprocal privileges and accordingly on May 11th an Order in Council was made applying Part II. of the Medical Act, 1886, to that part of the Dominion of Canada. I have already forwarded a request, through the Secretary of State for the Colonies, for particulars of the conditions, as to study and examinations, under which medical diplomas are granted in Nova Scotia. These particulars will in due course be laid before you, in order that you may satisfy yourselves regarding the sufficiency of the qualifications, and give directions for their registration in the Colonial List. In my own opinion it is highly desirable, in the interest of the Dominion itself no less than in that of the empire at large, that closer professional relations should be established between the mother country and her daughter States beyond the seas. From recent minutes of the Executive Committee it will be seen that legislation for the better control of medical practice and for the effective recognition of our own registrable qualifications, is making constant advances in the several Crown colonies of the empire. It will, I am sure, be welcome to the Council should the rest of the Canadian provinces see fit to follow the example of Nova Scotia and so enable us to unite all the self-governing colonies with ourselves in one bond of mutual recognition and mutual privilege. I have accepted an official invitation to visit Canada during the summer and I hope to have the opportunity of conferring on the question of medical reciprocity with some of the authorities there who desire further explanations of its scope and purport. It will be gratifying if the result is to accelerate the movement which, by the action of the maritime province, has now auspiciously begun. By an Order of His Majesty in Council, dated Dec. 11th, the Medical Act of 1886 was applied to the empire of Japan. Full details respecting the prolonged course of preparatory and professional study and examinations required for the medical degrees of the Imperial University have now been obtained through the Foreign Office. I have prepared for the use of the Executive Committee and of the Council a memorandum on the subject in which these details are set forth. You will probably be of opinion that the conditions for university graduation in Japan are amply sufficient to guarantee the efficiency of its Bachelors and Doctors of Medicine. Complete information regarding the other avenues to medical qualification in that country is not yet to hand; but so far as our information goes it shows that our Japanese allies have provided wisely and fully for the education of their practitioners in the science and art of western medicine. Let me add that it also does much to explain the unparalleled efficiency and success of their military medical service in the recent war. It is not too much to say that the surgeons and sanitary officers of the Japanese forces have proved themselves capable of teaching many wholesome practical lessons to the nations of the west.

You will permit me to mention, before leaving the subject of international relations, a recent personal experience of

my own. Last month I was invited, as your President and as deputy for the Vice-Chancellor of the University of Cambridge, to be present in Rome at the ceremonial opening of the magnificent group of clinical schools and laboratories known as the Policlinico and at the festival then held in honour of Professor Guido Baccelli, its founder and director. Having been also accredited by the Lord President of the Privy Council I was received as the representative of this country, and with other foreign delegates had the honour of delivering in the Capitol, before His Majesty King Victor Emmanuel and his Ministers, an address of congratulation to Professor Baccelli and to the University of Rome. As the Council is aware, Italy alone of European nations has entered into an agreement of reciprocity with us in respect of medical registration. His Majesty was pleased to note the fact with satisfaction and graciously offered me a special welcome on that account. During the subsequent proceedings the close professional relations between Italy and the United Kingdom were frequently referred to and always with cordial expressions of goodwill. It was impossible to resist the impression that the Council, by recognising for registration the medical degrees of the Italian Universities, had made an important contribution to the traditional comity existing between the two nations. In September next the University of Aberdeen celebrates its 400th anniversary and I have been favoured, as President of the Council, with an invitation to take part in the ceremonies. On the occasion of the 450th anniversary of the University of Glasgow the Council forwarded its congratulations and good wishes to that University. Should this precedent be followed, I shall be glad to receive your instructions for the preparation and presentation of a suitable address to the ancient University of Aberdeen. The Lord President has forwarded for our consideration a petition for a charter of incorporation, submitted to the Privy Council by the British Optical Association, and a copy of a Bill, entitled "The Sight-testing Opticians Bill," now before the House of Lords. Both documents propose that powers and privileges shall be conferred on certain persons, who are not qualified medical practitioners, in relation to the diagnosis and treatment of ocular defects. As the proposals touch closely the practice of ophthalmic medicine and surgery they will doubtless receive your careful scrutiny. At my request a confidential memorandum has been prepared on the subject as an aid to your consideration; you will probably find it a useful summary of the facts which have to be kept in mind. The Privy Council has also sent to the Council, for this purpose represented by the English branch, a draft of the revised rules framed by the Midwives Board. Many important modifications have been made in the rules, as the result of the experience gained by the Board since 1903. Under the Midwives Act, 1902, the branch Council is entitled to make representations on the revised text, and these must be considered by the Privy Council before the rules are approved as valid.

A draft of the supplemental charter which is being sought from His Majesty in Council by the University of Wales was before the Executive Committee in February. The charter, if granted, will empower that University to establish a Faculty of Medicine and Surgery and to grant degrees and diplomas in the Faculty. I have ascertained that the intention of the University authorities is to require that candidates for medical degrees shall have studied in one of the colleges of the University as matriculated students for not less than three years of the whole medical course, and that they shall have graduated in arts or science before graduating in medicine or surgery. The Executive Committee was of opinion that no objection should be raised to the grant of the charter, but pointed out that the degrees conferred in virtue of its powers would not be registrable qualifications, in the absence of an Act of Parliament amending the Medical Acts in that sense. If precedents are followed such an Act will contain a clause empowering the University of Wales to appoint an additional member of this Council. The addition will bring our number up to 35. As the Council chamber is even now inconveniently crowded its extension becomes an urgent necessity. The Office Site Committee, acting on the powers intrusted to it, has completed an arrangement whereby the Council may at once resume possession of the reserved portion of our Hanover-square site. In view of the commencement of building operations there the committee has thought it opportune to obtain plans and estimates for the enlargement during the summer of our present chamber. These the committee will submit to you during the session. We may therefore hope that in November we shall be able to meet in greater comfort and convenience than is now possible. Fortunately, the expense of the improvement, which I think is inevitable, will fall upon us at a time when we can bear it without difficulty. The accounts of the past year are already in your possession and I am happy to say that for the first time since 1895 they show a surplus of income over expenditure. The amount of the surplus is £907; it is due partly to an increase of income but in greater part to a decrease of expenditure, due to the expedition with which the Council carried through the business of its two sessions in 1905. Owing to the election of Direct Representatives in the current year an exceptional charge of considerable amount will have to be met by the branch Councils and it is therefore incumbent on us to persevere in our course of economy in so far as it is compatible with the full and efficient discharge of our statutory duties. One method by which our sittings may be kept within convenient limits has been in active operation during the present year. I refer to the careful preliminary consideration by the standing and special committees of important subjects remitted to them. Digests, memoranda, and draft reports have been prepared and circulated in good time to members who have thus had the opportunity of coming to a conclusion on the questions raised and of offering reasoned recommendations to the Council concerning them. To the chairmen of committees and to the Council's officials our grateful acknowledgments are due for much preparatory work of this kind. Reports by the Education and Examination Committees and by the Practical Midwifery Committee have been drawn up on this plan and will be submitted to you at the present meeting. It would, in my opinion, conduce to the value of our discussions in full Council were they in most cases confined to questions of principle on which, of course, the decision of the Council must be clear and authoritative; questions of detail might then be left to the committees to work out at leisure. Power to deal with details has already been given to the Pharmacopœia, Education, and Students' Registration Committees, and in view of the great increase in the size of the Council within recent years it is worth considering whether the practice might not with advantage be extended. It would also facilitate the arrangement of the committee meetings if, so far as is practicable, the membership of each standing committee were independent of the others. I commend the suggestion to the branch Councils, with which rests the duty of nominating standing committees. The Executive Committee also will present reports on certain points affecting your standing orders. Regarding the practice and constitution of the Penal Cases Committee Dr. Finlay has given notice of an important motion. If I am in order in alluding to the subject from the chair, I would say that in my opinion the full committee of nine, with the solicitor and legal assessor, who are always present, is unnecessarily large for the purpose in view. As a matter of practical experience, the statutory Dental Committee of five, with the same legal assistance, is found to be sufficient and efficient, though it has to act not only as a committee of advice with reference to penal cases, but also as a court of first instance for ascertaining the facts. I see no disadvantage, and some substantial advantage, in reducing the Penal Cases Committee to five members, two from England, one from Scotland, and one from Ireland, with the President. If this were done the objection felt by your legal advisers and by the Executive Committee to the mere rescission of Chapter IX., 5 (ii) of the Standing Orders would be removed; and our practice under the Medical Acts would be assimilated to our practice under the Dentists Act.

Under instructions from the Companies Bill Committee I have had prepared two drafts, one of a "Prohibition of Medical Practice by Companies Bill," the other of a "Dental Companies (Restriction of Practice) Bill." In their preparation I have had the active coöperation of your legal advisers and the friendly help of Mr. Muir Mackenzie. Sir John Batty Tuke and other Members of Parliament, in both Houses, have also afforded me the advantage of their practical experience and counsel as to the best method of presenting the Bills to Parliament. It will be enough here to say that the Bills are now ready and that there is reason to hope that they may be introduced during the present session. Some of the disciplinary cases with which you will have to deal and which present certain features of novelty in detail will serve to bring home to the members of the

Council the gravity of the situation arising from an unrestricted exercise of the skilled professions by joint-stock companies. The Council, within the sphere of its jurisdiction, can do something, the ordinary law of conspiracy or of fraud can do something more, to place obstacles in the way of flagrant abuse of the Companies Acts. But, as our experience accumulates, it becomes ever plainer that a change in the law is the only means whereby the public interest can be effectively safeguarded against the ingenious evasions that are possible under the existing law of corporate irresponsibility.

Dr. LITTLE moved that the best thanks of the Council should be given to the President for his luminous address and that it should be printed and entered on the minutes.

Business Committee.

The Business Committee was reappointed with Dr. Norman Moore as chairman in place of Dr. MacAlister.

Yearly Tables.

It was moved by Dr. NORMAN MOORE, seconded by Sir P. HERON WATSON, and agreed to, that the following yearly tables for 1905 be received and entered on the minutes:—

(*a*) I. and II. Tables showing results of professional medical examinations during 1905; (*b*) table showing results of professional examinations for qualifications in sanitary science, public health, or State medicine during 1905; (*c*) table showing results of professional dental examinations during 1905; (*d*) table showing results of preliminary examinations during 1905; (*e*) answers sent by the medical authorities as to the exemptions granted by them in any part of their examinations during the year 1905; (*f*) table showing results of competition held on Feb. 5th, 1906, for commissions in the medical staff of the Royal Navy; (*g*) table showing results of competition held in January, 1906, for commissions in the Army Medical Service; (*h*) table showing results of competition held in January for commissions in the Indian Medical Service.

Sir P. HERON WATSON proposed, and Dr. MCVAIL seconded, this motion:—

That the thanks of the Council be conveyed to the Director-General of the Medical Department of the Royal Navy, the Director-General of the Army Medical Service, and the Under Secretary of State for India, respectively, for the returns which they have again furnished to the Council, with the request that these returns may in the future continue to be furnished to the General Medical Council.

This motion was carried.

Dental Business.

The following report from the Executive Committee on the dental business transacted since the last meeting of the Council was received and entered on the minutes:—

(1) The prescribed conditions having been duly fulfilled in each case, the names of the under-mentioned persons have been restored to the Dentists Register, from which they have been erased in conformity with the provisions of Section 12 of the Dentists Act, 1878:—George M. Brown, Samuel Halliday, George F. Hare, William Lait, William Taylor, Vivian E. Turner.

(2) The President informed the committee that he had learnt that it was the intention of Sir John Batty Tuke to reintroduce into the House of Commons the two Bills relating to the practice of Medicine and Dentistry by limited liability companies, which were read a first time during the last session of Parliament.

It was resolved—

That the Executive Committee learn with satisfaction that Sir John Tuke is prepared to introduce into the House of Commons the Bills which have already been approved by the Council relating to the practice of Medicine and of Dentistry by limited companies and requests the President, in consultation with the legal advisers of the Council, to confer with Sir John Tuke as to any amendments which may be necessary and on behalf of the Council to agree to the same.

(3) A communication was received from the Colonial Office transmitting a copy of a despatch from the Governor of Hong-Kong enclosing the draft of an Ordinance to regulate the qualifications and to provide for the registration of dentists in the colony.

It was resolved—

That the Executive Committee acknowledge the receipt of the Draft Ordinance and express satisfaction that provision is made therein for the prevention under penalties of dental practice by unqualified persons and by joint-stock companies.

Glasgow Degree of B.Sc. in Public Health.

The Executive Committee reported as follows in regard to an application from the University of Glasgow for the recognition of a degree in public health:—

The General Council on Dec. 2nd, 1905, passed the following resolution:—

"That the Executive Committee be authorised, if it be satisfied that the regulations of the University of Glasgow are in agreement with the Council's rules for diploma in public health, to recognise for the purpose of registration the newly-instituted degree of B.Sc. in Public Health of the University of Glasgow."

In regard to this matter the following communication was subsequently received:—

"The University, Glasgow, Jan. 26th, 1906.

"DEAR SIR,—With reference to your letter of the 7th ultimo, addressed to the Registrar, regarding the recognition for purposes of registration by the General Medical Council of the degree of B.Sc. in Public Health of this University, I have to intimate to you that the Glasgow University Court have now approved an additional regulation drawn up by the Senate with the view of bringing the University regulations for the degree in harmony with the rules of the Council for diplomas in public health. The regulation is in the following terms:—

"'A period of not less than twelve months shall have elapsed between the attainment of a registrable qualification in medicine, surgery, and midwifery and the admission of the candidate to any examination, or any part thereof, for the degree of B.Sc. in Public Health.'

"I may add that this rule will henceforth be printed in our Calendar and other publications.

"I hope to learn from you in due course the decision of your Executive Committee. "Yours faithfully,

"WILLIAM STEWART, Clerk of Senate.

"The Registrar, General Medical Council Office."

After consideration the Executive Committee passed the following resolution:—

"That in virtue of the authority conferred on the Executive Committee by the General Medical Council the committee now instruct the Registrars to accept for registration as an additional qualification the degree of B.Sc. in Public Health of the University of Glasgow."

This report was received and entered on the minutes.

Penal Cases Committee.

In regard to the proposed revision of the Standing Orders relating to the Penal Cases Committee the Executive Committee reported as follows:—

The General Council, on Dec. 2nd, 1905, passed the following resolution:—

"That it be referred to the Executive Committee, in consultation with the legal advisers of the Council, to consider and report to the next meeting of the Council whether the Standing Orders affecting the Penal Cases Committee should not be amended by the omission of subsection ii., Chap. IX., p. 19, or, alternately, whether any change should be made in the constitution of the said committee."

The following opinion was received from the Council's solicitor:—

"I do not advise that any alteration should be made in the Standing Orders with regard to the summoning of the Penal Cases Committee. It seems to me eminently convenient that where there is no business of serious importance, and where, in addition, the cases do not apply to Ireland or Scotland, the President should have a discretion not to summon members from those parts of the United Kingdom. I have come to this conclusion after reading Dr. Finlay's memorandum."

Whereupon the Executive Committee adopted the following resolution:—

"That, in accordance with the legal opinion obtained, the committee recommend to the General Council that no alteration should be made in the Standing Orders, Chap. IX., sub-section ii."

The PRESIDENT said that before doing anything in regard to this report it would be well that Dr. Finlay should bring forward the motion of which he had given notice.

Dr. FINLAY then moved—

1. That clause 2 of Chapter IX., section 5, of the Standing Orders—viz., "The President shall be empowered not to summon the Scottish or the Irish members of the committee, as the case may be, unless any complaint forwarded from Scotland or from Ireland has been presented for consideration"—be rescinded; and

2. That the number of members of the Penal Cases Committee be reduced from eight to four.

Sir VICTOR HORSLEY said he was prepared to second the first part of the motion, but the second proposal was entirely different.

Dr. FINLAY was granted leave to move the first part only.

Dr. BRUCE and Sir CHRISTOPHER NIXON supported the motion, which was carried after a brief debate.

Dr. FINLAY next moved—

That the Penal Cases Committee be reduced from eight to five, two members to be representative of the English Branch, one of the Scotch Branch, one of the Irish Branch, and the fifth member to be the President.

This was seconded and carried, as was also a proposal that the quorum should be three. The report of the Executive Committee was allowed to drop and that committee was instructed to redraft the Standing Orders in accordance with these resolutions.

The PRESIDENT: I thank the Council for so promptly falling in with what will be a great improvement.

Japanese Degrees.

The PRESIDENT on behalf of the Executive Committee submitted the following report in regard to the present position of the question of the application of Part II. of the Medical Act, 1886, to the empire of Japan:—

The Executive Committee report to the Council that Part II. of the Medical Act, 1886, having been applied to the Empire of Japan by an Order of His Majesty in Council, dated Dec. 11th, 1905, the committee have carefully examined the Imperial Ordinance for the founding of imperial universities in Japan, dated March 1st, 1886, and the regulations for degrees in medicine and surgery made thereunder and at present in force. The committee are assured that candidates for degrees in medicine are required to pursue a course of literary and professional study extending over 14 years, including successive courses at a grammar school, a middle school, and a preparatory science school or college. In the latter the preliminary scientific subjects (chemistry, physics, &c.) are studied before the student enters on the four-years' course at the College of Medicine. The committee have satisfied themselves that the regulations provide a sufficient guarantee for the

possession by graduates in medicine of the Imperial University of the requisite knowledge and skill for the efficient practice of medicine, surgery, and midwifery, and they accordingly recommend—

1. That the degrees of Bachelor (*Igakushi*) and Doctor (*Igaku Hakushi*) of Medicine of the Imperial University of Japan be recognised by the Council as entitling to registration in the Foreign List of the Medical Register.

2. That with reference to applications from Japanese medical graduates for registration in the Foreign List, the Registrar be instructed to require the applicant to produce: (*a*) satisfactory evidence of identity; (*b*) satisfactory evidence of good character; (*c*) satisfactory evidence that he is by the law of Japan entitled to practise medicine, surgery, and midwifery in that country; (*d*) the diploma of Bachelor or Doctor of Medicine of the Japanese Imperial University; (*e*) satisfactory evidence in relation to the circumstances (1), (2), (3), set forth in Section 12 of the Medical Act, 1886; (*f*) officially attested translations of such Japanese documents as are produced under any of the foregoing heads.

On the motion of Dr. NORMAN MOORE, seconded by Mr. YOUNG, the report was received and entered on the minutes.

The PRESIDENT, in moving that the report be adopted, said that the Executive Committee had intrusted him with the duty of finding out all about the conditions of medical qualification in Japan and it appeared that there were a number of different kinds of qualifications, some local, some provincial, and some imperial. They were dealing here only with the qualifications of the university. With regard to the others the information at present at their disposal was not complete. It appeared from the information in the memorandum laid before the General Medical Council that the course for intending medical students in Japan was long and thorough. It extended over 14 years. The medical student had to begin with a grammar school and pass through all its stages with success before he was allowed to take the next stage. He had next to pass through a high school and there again he required to have a satisfactory leaving certificate which proved that he was fit for the following stages, varying from two to three years at a science college where the preliminary sciences were taught and from which the student must obtain proper certificates equivalent to the Bachelor of Science or Bachelor of Letters in the French University before being allowed to enter the Medical College of the Imperial University. There the course began with anatomy and physiology and extended over four years and at the end of it the final examination for Bachelor of Medicine included general medicine, surgery, and midwifery with other branches. Anyone who studied the documents would see that not only in extent but minuteness the examination was at least equal to any we had in this country. It covered a very large number of special branches and judging from the practical results obtained by those who had been turned out in the degree of Bachelor of Medicine after this long course no one could come to any other conclusion than that it was a very thorough and satisfactory course. For the degree of Doctor of Medicine there was a higher course of study at the University Hall and the graduate might then submit himself to an advanced examination. There were about 1300 Bachelors of Medicine in Japan at the present moment, and he had reason to believe that the graduates of the Imperial University were among the most distinguished of those who contributed to the success of the medical department in the war. If the General Medical Council was satisfied that the degree of Doctor or Bachelor was a sufficient guarantee for the practice of medicine, he hoped it would accept the report of the Executive Committee and adopt it.

The motion for the adoption of the report was agreed to unanimously.

The Council, after sitting *in camerâ*, adjourned till Wednesday afternoon.

WEDNESDAY, MAY 23RD.

On Wednesday the Council proceeded to the consideration of penal cases.

LIVINGSTONE COLLEGE.—Commemoration Day proceedings at Livingstone College will this year take place on Thursday next, May 31st. Mr. J. A. Simon, M.P., is announced to preside. Among the speakers will be Mr. James Cantlie, whose familiarity with Eastern conditions of disease and its treatment will insure his words being of practical value. The debt of the college has now been reduced to about £217 but the number of students who have entered during the present year is, we learn, insufficient to enable the expenses to be met. Tickets for the Commemoration Day proceedings may be obtained by written application to the Principal, Livingstone College, Leyton, London, E.

THE GERMAN SURGICAL CONGRESS.[1]

(*Concluded from p. 1423.*)

A Ball of Hair in the Stomach.

Professor VON BRAMANN (Halle) described the case of a girl who had been in the habit of biting off, and swallowing, the ends of her long hair. In course of time this hair formed an enormous mass within the stomach, the subjective symptoms, however, being only a slight sensation of pressure in the gastric region. When the stomach was opened the ball of hair was found to have adapted itself to the shape of the gastric cavity so as to resemble a cast taken in a mould. The hair was originally light-coloured but had become black in consequence of the administration of preparations of iron.

The Production of Anæsthesia by Intraspinal Injections.

Professor KRÖNIG (Freiburg) said that it was a disadvantage of intraspinal injections that the patient, though not feeling any pain, was nevertheless quite aware of what was going on and even of the progress of the operation. He has therefore combined the intraspinal injection with a previous subcutaneous injection of a solution of morphine and scopolamine, by which a peculiar dreamy state was produced. Although the patients seem to take notice of the proceedings they have afterwards no recollection of what has happened. In this way 600 confinements and 160 operations, of which 65 were laparotomies, were conducted.

Dr. KADER (Breslau) said that intraspinal injections might be employed in operations on the upper part of the body—for instance, in operations on the thyroid gland, on the larynx, &c.—if the injection was made in the dorsal region of the vertebral column and the patient was placed in the Trendelenburg position.

Operations for Cancer of the Upper Part of the Rectum.

Professor KRASKE (Freiburg) recommended a combined method of treating cancer of the upper part of the rectum. He began with laparotomy; if the case was found to be inoperable colotomy was at once performed but if there was a possibility of removing the cancer the rectum was divided below the growth, after which it was comparatively easy to free the bowel. The operation must then be continued in the lateral position by the ordinary sacral method. Resection of the rectum was more difficult in men than in women because of the narrowness of the male pelvis. The ends of the bowel were then joined together by circular sutures. Of ten patients operated on six recovered and four died from shock. Sufficient time had not elapsed since the operation to enable him to give a definite opinion as to the permanence of the results.

Dr. KÜMMELL (Hamburg) remarked on the difficulty of the operation in the case of males. There were six deaths among 14 patients on whom he had operated.

Professor KOCHER (Berne) recommended the use of Murphy's button and said that the combined method was advisable while the growth was still moveable.

Dr. REHN (Frankfort) was opposed to the combined operation because of the shock produced by the difficulty of the procedure and the risk of gangrene of the bowel.

Professor SCHLANGE (Hanover) said that he always performed colotomy a fortnight previously to the principal operation. This made the operation cleaner and it was more easy to free the bowel and to bring it down.

Treatment of Acute Inflammation.

In connexion with this subject it will be remembered that at the Surgical Congress held in April, 1905, Professor BIER of Bonn described a new method of treating acute inflammation by the production of artificial hyperæmia, the means employed for this purpose being either cupping-glasses or a caoutchouc bandage. Some account of the procedure was given in THE LANCET.[2] In the course of the Congress held in 1905 the treatment was demonstrated on a number of patients and the same patients were shown at the final meeting when an obvious improvement in the symptoms had occurred. As other surgeons had not at that time had an opportunity of employing the method the subject was not discussed in 1905 but the further consideration of it was

[1] For this report we wish to tender our sincere thanks to the Editor of the *Deutsche Medizinische Wochenschrift*, through whose courtesy it has been forwarded to us by our Berlin correspondent.

[2] THE LANCET, May 27th, 1905, p. 1455.

postponed until now, so that experience might be gained and surgeons might be able to express an opinion as to the usefulness or otherwise of the procedure. In the discussion which took place in the present Congress it was unanimously agreed that Professor Bier's method fully justified all the claims made for it by its discoverer. When this treatment was employed the pain was relieved, the patient's temperature became normal, and the results as regards the function of the limbs were good owing to the avoiding of large incisions. On the other hand, the practical application of the treatment presented some difficulty as the patient had to be under incessant observation. The treatment was, therefore, not available for the general practitioner but could only be employed in hospitals. In addition to the indications suggested by Professor Bier artificial hyperæmia was recommended as a prophylactic against inflammation of wounds containing dirt, in compound fractures, in sutures of tendons, &c. It was successful also in anthrax, in diabetic furunculosis, and in suppuration of the frontal sinus. An abdominal stasis produced by constriction round the umbilical region proved useful in infiltration of the tissues by urine. Passing to the technical details, it was recommended in mastitis to apply the cupping glass over a drainage-tube introduced into a small incision. The stasis should be continued even if the inflammatory symptoms had not decreased after several days and in order to avoid relapses it should also be continued after the inflammation had apparently disappeared. Some surgeons recommended that the making of incisions should not be abandoned altogether but that they should be of smaller size than hitherto and should be combined with Professor Bier's method.

Professor LEXER (Königsberg), however, expressed the opinion that artificial hyperæmia was successful in slight cases only. He said that from a bacteriological point of view the venous stasis made the toxins increase by diminishing the absorptive power of the tissues. In acute inflammation recovery took place through the toxic substances being removed either by incisions or by the natural recuperative power of the organism. In grave infections, especially by streptococci, the natural recuperative power was insufficient and incisions of not too small a size must be resorted to. He therefore recommended the immediate removal of infectious germs by an incision and then the use of artificial hyperæmia. In this way he had obtained excellent results.

Professor BIER, in closing the debate, said that his experience now included more than 1500 cases of acute inflammation, of which 1100, comparatively mild ones, were treated with cupping glasses and the remainder by constriction. Among the serious cases were 25 of phlegmonous inflammation of the tendinous sheaths, of which 17 recovered without any necrosis and eight with only a partial necrosis of the tendons. Of six cases of cellulitis of the palm five recovered with complete, and one with nearly complete, restoration of function. Of 22 cases of osteomyelitis 11 recovered with, and 10 without, necrosis and one case died from pyæmia. In 8 cases of cellulitis the results were unsuccessful because they came under treatment in an advanced state. Better success would certainly be obtained when the method was used immediately after the outbreak of the inflammation. Metastatic suppuration of the joints had been hitherto treated by puncture and irrigation. By artificial hyperæmia the function of the joint was preserved. In 17 cases of mastoiditis 16 recovered under artificial hyperæmia combined with the making of a small incision. Artificial hyperæmia was not indicated in erysipelas and in inflammation produced by streptococci. The joints should not be immobilised as had hitherto been the rule; he recommended that movements should be made at an early stage in a hot bath.

Myxœdema.

Professor PAYR (Gratz) reported a case of myxœdema in a child, six years of age, who had taken thyroidin tablets for three and a half years without success. After making experiments on animals, Professor Payr inserted a piece of the thyroid gland of the mother into the spleen of the child. The operation was successful. At the present time, four months after the operation, the intelligence of the child had improved and the facial expression had become less stupid. With regard to his experiments on animals, he said that for the purpose of inserting a piece of the thyroid gland into the spleen he first made a kind of pocket in the latter viscus. When the first wound had healed he inserted a second piece so that eventually the whole thyroid gland was present in the spleen.

Professor KOCHER reported that he had obtained similarly successful results in myxœdema by implanting small pieces of thyroid gland between the peritoneum and the skin.

Compression of the Trachea by the Thymus Gland.

Dr. REHN said that he had observed five cases of compression of the trachea by the thymus gland; two of them were operated on and recovered, whilst three died without being operated on. There could be no doubt as to the possibility of the trachea being compressed by an extremely large thymus gland, especially if the latter was swollen in consequence of an infectious disease. The appearance of a small growth in the neck during expiration and the evidence supplied by a radiograph were important for the purpose of diagnosis. Enucleation of the gland should be performed without tracheotomy; resection of the sternum was not necessary.

Dr. KÖNIG (Altona) said that he had seen rachitis develop after total removal of the gland; he therefore recommended only partial resection.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

Borough of Margate.—Mr. Bertram Thornton reports that the new water-supply from Wingham which was opened in 1903 has been much appreciated after the old supply which contained prior to its disuse no less than 170 grains of salt per gallon, a fact which formed the subject of universal complaint from visitors. Clearly the sea water was impregnating the chalk and being drawn into the public water-supply. The new water is taken from a well in the chalk at a distance of some 14 miles from Margate and the area from which the water is derived is reported to be free from the risks of pollution. Both the chemical and the bacteriological analyses have yielded satisfactory results and the population of Margate is now consuming only 2·5 grains of salt per gallon in place of 170 grains formerly.

Borough of Wimbledon.—The water of this district was until recently supplied by the Lambeth Company from the Thames but owing to complaints having been made as to the quality of the water furnished to the district the Metropolitan Water Board has, since May, 1905, supplied Wimbledon from a deep well at Streatham. As Mr. E. Pocklington, the medical officer of health, observes, the experience so far gained is too short to afford trustworthy comparisons but it may be significant that the infantile mortality for 1905, which was the lowest on record, occurs at a time when this alteration in the water-supply has been made. We are glad to note that the Local Government Board is putting pressure upon authorities in whose districts there are watercress beds liable to pollution. Public attention was called to these places by the admirable report by the London County Council Medical Department and the conditions at Wimbledon appear to be eminently undesirable, the beds being fed with water by an intake from the river Wandle which normally is at a level of about two feet above the beds. Above the intake the Wandle receives the effluent from sewage farms and at the date upon which Mr. Pocklington visited the locality the water of the river was very turbid, dirty, and foul, and fæces were seen floating in the Wandle near the intake to the watercress beds. Mr. Pocklington advises that the Local Government Board should be petitioned to promote legislation giving to local authorities efficient control of watercress beds.

Scarborough Urban District.—Dr. John Knight expresses regret that the voluntary notification of consumption which was introduced in 1904 is making no headway. In 1904 there were 25 notifications and in 1905 only 12, there having been in the same year 40 deaths. Disinfection was carried out either privately or by the sanitary authority in 14 instances, disinfection was declined in 21 instances, and in the remaining five (out of the total 40 deaths) all information was refused.

County Borough of Brighton.—Dr. Arthur Newsholme, in commenting upon the system of voluntary notification of pulmonary tuberculosis which was inaugurated in Brighton

in 1899, reports that during 1905 there were 308 new cases notified, as against 363 in 1904, there being in addition 102 cases re-notified in 1905 and 85 in 1904. In 1904 there were 259 deaths and in 1905 241. Dr. Newsholme makes an interesting comparison between notification in Brighton, where it is voluntary, and notification in Sheffield, where it is obligatory, and he shows that the number of new cases of pulmonary tuberculosis notified per 100,000 of the population was greater in Brighton during 1904 and 1905 than was the case in Sheffield under its obligatory system. As regards the 102 re-notifications during 1905 it is instructive to note that 73 were re-notified once, 22 twice, 6 three times, and 1 seven times during the year. With reference to the stage at which notification occurred, eight cases were notified less than a week before death, 13 from one to four weeks before death, 15 from one to two months, seven from two to three months, six from three to four months, and six from six to 12 months before death. A limited outbreak of milk-borne scarlet fever occurred in Brighton during 1905 and the cause of the mischief was easily determined, Dr. Newsholme states, by the fact that the milkman whose milk was involved had so kept his books that the source of milk supplied on each round could easily be determined. The method in question was adopted, Dr. Newsholme tells us, at his suggestion, and there would be advantage if a similar method was generally employed. The difficulty in tracing any given milk to its source is often enormous and in the absence of proper registration the opportunities for misleading the investigator are very numerous. When the milk coming from different farms is mixed together, as is so often the case, it requires a Sherlock Holmes with a knowledge of milkmen to discover the source of the milk which was the cause of the infection, and the difficulties are still further increased when the milk vendors borrow milk from one another.

County Borough of Wigan.—In connexion with the isolation hospital problem it may be mentioned that amongst the scarlet fever cases treated at home (with what Mr. William Berry, the medical officer of health, regards as better nursing and housing) the fatality-rate was 5·08 as against a fatality-rate of 2·41 in patients treated in hospital. As Mr. Berry observes, the difference is not improbably a coincidence and it would be well to take the average for a series of years before attempting to draw any inference from the figures. Not much progress is being made in Wigan in the direction of diminishing the smoke nuisance. Observations have been taken and numerous letters written but no prosecutions have been instituted against the offenders. It is difficult to understand from Mr. Berry's report why no prosecutions have been undertaken, seeing that apparently a local firm has been eminently successful in dealing with the smoke difficulty at its own works and has made its methods public. There would indeed seem to be considerable force in the remarks of Mr. E. Sergeant, the county medical officer of health, when he says in his annual report for 1904: "The efforts made in the country districts to remove the atmospheric pollution due to black smoke are inadequate and in my opinion little will be done by way of prevention until power is given to the county council to appoint their own inspectors to look after the nuisance." But Mr. Sergeant does not in this opinion evince a very high appreciation of local government.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8671 births and 4391 deaths were registered during the week ending May 19th. The annual rate of mortality in these towns, which had decreased in the four preceding weeks from 17·3 to 15·5 per 1000, further declined last week to 14·5 and was lower than in any previous week of this year. During the past seven weeks of the current quarter the death-rate in these towns has averaged 16·3 per 1000; in London it was 16·6 and in the 75 provincial towns 16·2 per 1000. The lowest death-rates during last week in the 76 towns were 4·2 in Hornsey, 7·9 in Leyton, 8·3 in Leicester, and 8·5 in Rotherham and in West Hartlepool; the rates in the other towns ranged upwards to 20·5 in Liverpool and in Bootle, 20·8 in Yarmouth, 20·9 in Rochdale, 22·0 in Hanley, and 22·2 in Tynemouth. The 4391 deaths in the 76 towns showed a further decline of 307 from the numbers in recent weeks and included 421 which were referred to the principal epidemic diseases, against 484 in the previous week; of these, 141 resulted from measles, 134 from whooping-cough, 45 from diarrhœa, 43 from diphtheria, 37 from scarlet fever, 21 from "fever" (principally enteric), and not one from small-pox. The deaths from these diseases were equal to an annual rate of 1·4 per 1000 in the 76 towns and to 1·3 in London. No death from any of these infectious diseases was registered last week in Brighton, Southampton, Huddersfield, Halifax, Merthyr Tydfil, Swansea, or in ten other large towns, whereas they caused the highest death-rates in Manchester, Salford, Birkenhead, and Liverpool. The highest death-rates from measles occurred in Leeds, Liverpool, and Salford; from whooping-cough in Croydon, Coventry Newport, Liverpool, Birkenhead, and Aston Manor. The 45 deaths attributed to diarrhœa in the 76 towns showed a further slight increase; while the fatal cases of scarlet fever had declined. Of the 43 fatal cases of diphtheria 11 occurred in London, five in Birmingham, and two each in Birkenhead, Liverpool, Sheffield, Hull, Middlesbrough, and Cardiff. Four deaths were referred to "fever" in Manchester and two in Liverpool. Two cases of small-pox were under treatment in the Metropolitan Asylums Hospitals at the end of last week, two new cases having been admitted during the week. The number of scarlet fever cases under treatment in these hospitals and in the London Fever Hospital on Saturday, May 19th, was 2396, showing a further increase upon the numbers in recent weeks; the 301 new cases admitted during the week were, however, fewer by 37 than those in the previous week. The deaths referred in London to pneumonia and other diseases of the respiratory organs, which had declined in the four preceding weeks from 399 to 273, further fell last week to 244, but exceeded by 31 the corrected average for the corresponding week in the four preceding years, 1902–05. The causes of 44, or 1 per cent., of the deaths registered in the 76 towns during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Leicester, Bradford, Leeds, Hull, Newcastle-on-Tyne, and in 46 smaller towns. The proportion of uncertified deaths showed, however, an excess in Northampton, Birmingham, Liverpool, Warrington, Rochdale, Blackburn, Sheffield, and Tynemouth.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 18·0 and 18·8 in the two preceding weeks, declined again to 17·6 in the week ending May 19th, but exceeded by 3·1 the mean rate during the same week in the 76 large English towns. The rates in the eight Scotch towns ranged from 11·9 in Aberdeen and 12·6 in Leith, to 19·0 in Glasgow and 21·0 in Paisley. The 603 deaths in these eight towns included 22 which were referred to diarrhœa, 16 to measles, 15 to whooping-cough, three to diphtheria, one to scarlet fever, one to "fever" (probably enteric), but not any to small-pox. In all, 58 deaths resulted from these principal infectious diseases, showing a decrease of nine from the number in the previous week. These 58 deaths were equal to an annual rate of 1·7 per 1000, which exceeded by 0·3 the mean rate during the week from the same diseases in the 76 English towns. The 22 fatal cases of diarrhœa showed a further increase on the numbers in the preceding three weeks and included 12 in Glasgow and five in Dundee. The deaths from measles, which had risen from 15 to 26 in the four preceding weeks, declined again last week to 16, of which eight occurred in Glasgow and five in Edinburgh. The 15 fatal cases of whooping-cough were slightly fewer than the number in the preceding week, and included ten in Glasgow and two in Edinburgh. The three deaths from diphtheria included two in Glasgow. The deaths in the eight towns referred to diseases of the respiratory system, including pneumonia, which had been 138 and 109 in the two preceding weeks, rose again last week to 131, and were 48 in excess of the number in the corresponding period of last year. The causes of 21, or more than 3 per cent., of the deaths registered in these eight towns last week were not certified, the proportion of uncertified deaths in the 76 large English towns during the same week being 1 per cent.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 25·9 and 21·7 in the two preceding weeks, further declined to 21·6

in the week ending May 19th. During the first seven weeks of the current quarter the death-rate in the city averaged 23·5 per 1000, against 16·6 in London. The 157 deaths of persons belonging to Dublin registered during the week under notice showed a further decline of one from the recent weekly numbers; they included but two which were referred to the principal infectious diseases, against two and eight in the two preceding weeks. The two deaths from these infectious diseases included a fatal case each of diphtheria and diarrhœa, and were equal to an annual rate of 0·3 per 1000, the rate from these diseases in the same week being 1·4 in London. The death-rate from these infectious diseases in Dublin has been exceptionally low since the beginning of this year. The 157 deaths in Dublin last week included 25 of infants under one year of age and 40 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a decline from the numbers in the previous week. Six inquest cases and three deaths from violence were registered; and 73, or 46 per cent., of the deaths occurred in public institutions. The causes of four, or more than 2 per cent., of the deaths in the city were not certified either by a registered medical practitioner or by a coroner.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: W. G. Axford to the *Prince of Wales*, on recommissioning; J. Barry to the *Centurion*, on recommissioning; H. S. R. Sparrow to the Royal Marines, Plymouth; and A. M. Page to the *Cambridge*. Staff Surgeons: P. M. May to the *President*, for three months' hospital course; M. H. Knapp to the *Venus*, on recommissioning; G. T. Bishop to the *Emerald*, additional, for Haulbowline Dockyard; J. D. S. Milu to the *Scylla*; and R. F. Clark to Haslar Hospital. Surgeons: E. D. Rutherford to the *Venus*; A. C. W. Newport to the *Gladiator*, on recommissioning; H. L. Norris to the *Sappho*; W. E. Gribbell to Haslar Hospital; E. R. Townsend to the *Victory*, lent to Haslar Hospital; N. S. Meiklejohn to the *Widgeon*; H. S. Turner to the *Snipe*; P. M. Rivaz to the *Teal*; A. J. Laurie to the *Glory*; W. N. Blatchford to the *Cambridge*; and A. J. MacDiarmid to the *Venus*, on recommissioning.

In accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet Surgeon John Dudley has been placed on the Retired List, with permission to assume the rank of Deputy Inspector-General of Hospitals and Fleets (dated May 13th, 1906).

ROYAL NAVAL VOLUNTEER RESERVE.

The undermentioned gentleman has been appointed a Surgeon, viz.:—Thomas Guthrie (dated May 11th, 1906).

GRENADIER GUARDS.

Surgeon-Lieutenant-Colonel Edward N. Sheldrake retires on retired pay (dated May 23rd, 1906).

ROYAL ARMY MEDICAL CORPS.

Lieutenant Francis M. M. Ommanney, from the seconded list, to be Lieutenant (dated May 14th, 1906). Lieutenant Leonard Bousfield is seconded for service with the Egyptian Army (dated April 30th, 1906). Colonel W. B. Slaughter, Administrative Medical Officer at Colchester, is appointed Principal Medical Officer, Western Command, India, with the rank of Surgeon-General.

Lieutenant-Colonel G. G. Adams is appointed to the charge of the military hospital at Maryhill, Glasgow, on his return from India, vice Lieutenant-Colonel R. J. Geddes, transferred to Aldershot. Major J. S. Davidson has joined at Woolwich. Captain R. Selby is appointed a Specialist in Dermatology.

INDIAN MEDICAL SERVICE.

The King has approved of the retirement of Colonel Samuel Haslett Browne, C.I.E. (dated April 29th, 1906).

IMPERIAL YEOMANRY.

Royal North Devon (Hussars): Surgeon-Captain J. R Harper to be Surgeon-Major (dated May 19th, 1906).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Shropshire and Staffordshire: Surgeon-Lieutenant-Colonel J. P. Massingham is granted the honorary rank of Surgeon-Colonel (dated May 19th, 1906).

Royal Engineers (Volunteers): 1st London: John Hobbs to be Surgeon-Lieutenant (dated May 7th, 1906).

Rifle: The Queen's Rifle Volunteer Brigade, the Royal Scots (Lothian Regiment: Henry Alfred Leebody to be Surgeon-Lieutenant (dated May 19th, 1906). 3rd Volunteer Battalion the Prince of Wales's Own West Yorkshire Regiment): George Ephraim St. Clair Stockwell to be Surgeon-Lieutenant (dated May 19th, 1906). 3rd Lanarkshire Volunteer Rifle Corps: Supernumerary Surgeon-Lieutenant-Colonel A. Napier (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Scottish Rifle Volunteer Infantry Brigade) is granted the honorary rank of Surgeon-Colonel (dated May 19th, 1906). Supernumerary Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel A. Napier (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Scottish Rifle Volunteer Infantry Brigade) resigns his Commission, with permission to retain his rank and to wear the prescribed uniform (dated May 19th, 1906). 2nd (Angus) Volunteer Battalion, the Black Watch (Royal Highlanders): Surgeon-Lieutenant N. J. Sinclair resigns his commission (dated May 19th, 1906). 2nd Volunteer Battalion, the Duke of Edinburgh's (Wiltshire Regiment): Surgeon-Captain G. R. Swinhoe to be Surgeon-Major (dated May 19th, 1906).

DEATHS IN THE SERVICES.

Brigade-Surgeon Robert Edmund Pearse, I.M.S. (retired), on May 14th, at his residence at Ramsgate, in his seventieth year. He entered the service in 1859, was appointed surgeon in 1871, and promoted to brigade-surgeon in 1885 He retired in 1888.

MENTIONED IN DISPATCHES.

In a dispatch published in the *London Gazette* of May 18th relating to the operations in the Bahr-el-Ghazal Province (1905) the name of Major H. A. Bray, R.A.M.C., principal medical officer of the force, is specially mentioned by Major-General Sir Reginald Wingate, Sirdar and Governor-General of the Soudan.

REVISION OF THE ROYAL ARMY MEDICAL CORPS REGULATIONS.

The *Times* announces that "revised regulations for admission to the Royal Army Medical Corps are published with this month's Army Orders."

RECENT CHANGES IN THE INDIAN ARMY.

The Headquarters Staff of the Indian Army is hard at work at the present time in carrying out the reorganisations and revisions inaugurated by Lord Kitchener. In the official lists there is now an army department which, according to the *Standard* of May 22nd, is discharging functions that were formerly in the hands of the civil authorities. The Army Headquarters Staff is split up into four divisions, each of which is subdivided into branches and sections. In the new organisation the name of Principal Medical Officer Surgeon-General Sir T. J. Gallwey appears under the heading of Medical Division.

THE EARL OF PORTSMOUTH ON THE ARMY.

It will, we think, be generally admitted that the Earl of Portsmouth, in replying for the army at the late anniversary dinner of the Royal Geographical Society, adopted quite the right tone and spirit in what he had to say about the army. He declared that both Mr. Haldane and himself desired to see military matters lifted out of the arena of party politics. Great reforms could not be effected in the time of any one Government. What they wished to see was the establishment of a continuity of policy in the War Office itself, and a means of giving effect to the idea of a territorial army. The committee which had been appointed to consider this subject had been formed to secure the opinions of representative men connected with the auxiliary services whose views should be well weighed before any scheme was placed before Parliament. They felt that the work which Lord Roberts was doing in encouraging the training of boys in some system of military service was admirable work. It was work which could be better and more effectively done apart from the War Office than under

its control. It was a useful thing from a military point of view to train the youth of the country but it was also of value from the point of view of physical development.

NEW ARMY RATION—TINNED SAUSAGES.

A specially prepared meat ration in sausage form is to be tried as a field ration during the present training season. Each tin contains four sausages, wrapped in skin, the weight of each sausage being 7 ounces to 7½ ounces. The sausages form one day's ration. The meat is minced and of similar quality to that sold by the leading firms in Australia in the form of preserved meat. It has no seasoning. An advantage of this ration over ordinary preserved meat is that a portion of the ration can be consumed, while the remainder may, without deterioration, be taken out of the tin and carried loose in the haversack and eaten when required. It is palatable and as it contains no salt will not cause the thirst which often occurs after ordinary preserved meat. Sausage rations are to be issued to the troops during manœuvres and training in lieu of preserved meat and at the end of the season reports are to be submitted as to whether the troops prefer it to ordinary tinned meat. If the experiment meets with the success which is anticipated it is intended to supply the sausage in one-pound tins fitted with a key.

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

The May number of this journal is a good one, dealing with a variety of subjects and containing as it does many interesting and useful papers. Major W. H. Horrocks, R.A.M.C., and Captain J. Crawford Kennedy, R.A.M.C., who were members of the Mediterranean Fever Commission appointed by the Admiralty, the War Office, and the Civil Government of Malta, continue the report of their investigations on that disease. Lieutenant and Quartermaster F. Bruce, R.A.M.C., contributes some useful Hints regarding the Management and Use of the X Ray Apparatus; Captain J. C. B. Statham, R.A.M.C., publishes a Note on an Investigation into the Blood in Cases of Tubercular Disease and Malta Fever; and Captain H. W. Grattan, R.A.M.C., and Captain E. W. W. Cochrane, R.A.M.C., deal with the subject of Trypanosomiasis in the West African Regiment, Sierra Leone. There are other interesting articles on the Limit of Usefulness of Infectious Hospitals, by Major C. J. W. Tatham, R.A.M.C., and Enteric Fever: a Waterborne disease, by Major Norman Faichnie, R.A.M.C., and other subjects; also an excellent one on the Pasteur Institute at the German Field Hospital, Tientsin, by Lieutenant-Colonel W. G. Macpherson, C.M.G., R.A.M.C. The Journal also contains the final report of the Advisory Board for Army Medical Services on "The Treatment of Venereal Disease and Scabies in the Army."

THE BRITISH RED CROSS SOCIETY.

A public meeting was held at the Mansion House, London, on May 23rd for the purpose of making known the objects of the above society, which is now officially recognised as the Red Cross Society of this country, the King being its patron and the Queen its president. Lord Rothschild presided and among the speakers were Lord Tweedmouth, General Lord Methuen, and Sir Frederick Treves. Before the close of the proceedings a message from the Prince of Wales was received congratulating the society upon its work and expressing the hope that "in time a branch of the British Red Cross Society will be formed in every part of the empire." The primary object of the British Red Cross Society is to furnish aid to the sick and wounded in time of war. Such aid must necessarily be supplementary to that furnished by the medical departments of the navy and the army. It is assumed that upon those two departments rests the responsibility of providing for the casualties of war and that the society will offer such additional comforts and such general help as may be considered beyond the reasonable scope of the official bodies.

DINNER TO THE DIRECTOR-GENERAL OF THE ARMY MEDICAL SERVICE.

At the Trocadéro Restaurant on May 17th Surgeon-Colonel P. B. Giles, A.M.R., and the officers of the Volunteer Ambulance School of Instruction entertained Surgeon-General A. H. Keogh, C.B., Director-General of the Army Medical Service, and friends at dinner. Amongst those present were Colonel A. T. Sloggett, C.M.G., R.A.M.C., and Surgeon-Colonel J. Cantlie, R.A.M.C. (Vol.).

Correspondence.

"Audi alteram partem."

THE COÖRDINATION OF CLINICAL MATERIAL.

To the Editors of THE LANCET.

SIRS,—I bring forward the following suggestion with all due reserve as I feel sure it must very probably have been mooted before. It is that THE LANCET should start some scheme by which the great mass of interesting clinical facts and cases that come under the observation of medical men, practitioners more especially, from day to day might be collected together and tabulated and some use made of them. The general practitioner if he has some interesting case under his care or comes across a useful new clinical fact has not the time to report the case or to look up references; even if the case is reported it is not nearly of such use to the advancement of medical knowledge as if a series of similar cases were collected together and discussed in a paper on the subject by someone who had had the time and opportunity to make a thorough study of the condition. I would suggest that THE LANCET should originate such a bureau of information to which these interesting cases and observations might be sent. The information thus collected might be published from time to time in THE LANCET or might be used by anyone writing a thesis or paper on the subject, the source of the information being acknowledged as far as possible in the article or paper. Even if only one general practitioner in ten availed himself of this opportunity of preserving from oblivion useful clinical facts I feel sure that the result would be a real help to the progress of medical knowledge. The person in charge of the information bureau and responsible for the collection and tabulation of the clinical material forwarded to THE LANCET might perhaps be allowed to publish from week to week in that paper an acknowledgment of the letters received and a few lines in which he might state special questions on which information would be of value. May I be allowed to give an example of a clinical observation on a case that would be of value? The observation by itself is practically valueless but if observations on similar cases could be collected together most useful information on the subject might be obtained.

A man was brought to the hospital, having been run over by a motor car. The car passed over the abdomen and there was a good deal of shock and collapse. The abdomen was rigid and tender but there were no definite signs pointing to internal hæmorrhage. He improved somewhat and seemed as though he would recover. However, about a week after admission it was found that the abdomen was becoming distended and full, especially in the epigastric and left hypochondriac regions, and there was an area of dulness in this region. A subphrenic abscess was diagnosed due to rupture of the stomach because immediately after the accident there had been some hæmatemesis. A leucocyte count was performed to help in the diagnosis and a count of 56,000 white blood corpuscles per cubic millimetre obtained. The diagnosis, therefore, seemed to be confirmed. At the operation a ruptured spleen was found, with much free blood and fluid in the peritoneal cavity. Now this observation raised the following points. (*a*) Is a count as high as this found usually in cases of internal hæmorrhage where the blood has remained in contact with the peritoneum some days? It is much too high a blood count to be due to the effects of the hæmorrhage and is more likely to be due to peritoneal irritation. (*b*) Might the count be due to the injury to the spleen, the pedicle of which in this case was practically torn right across?

From a single case no opinion can be expressed on the questions here raised and hence the observation itself is not worth reporting. I have not the time to wade through "index medicuses" to look up similar cases and it is not worth while waiting for another case of a similar nature to turn up; it might be a matter of years before such an event occurred. But if information on similar cases was collected we should soon have enough material to permit of a definite answer to these questions being given. This is not an isolated example. We are all continually coming across other cases not worth reporting individually but which collectively would form a useful contribution to our present

knowledge. With many apologies for troubling you on this matter and feeling that if this scheme is feasible it would add to the usefulness of your valuable journal and be a benefit to medicine,

I remain, Sirs, yours faithfully,

W. A. REES, M.B. Lond., F.R.C.S. Eng.,
Registrar and Pathologist to the Bolingbroke Hospital.

May 19th, 1906.

*** Such collating of cases would be exceedingly valuable to clinicians and pathologists. We should be happy to play something like the part assigned to us, but we fear that our correspondent over-rates the likelihood of the medical profession generally finding time regularly to communicate their observations.—ED. L.

TEA-DRINKING AND IMMUNITY FROM TYPHOID FEVER.

To the Editors of THE LANCET.

SIRS,—As bearing on my recent observations in THE LANCET of Feb. 3rd, p. 337, on tea drinking by the Australasians in the South African Campaign securing the boiling of water as a preventive of enteric fever, the following extract taken from the *British Australasian* may be of interest. Quoting from the *Boston Globe*—

It is said on the high authority of a celebrated American medical journal that, although the Chinese people live in a germ-saturated soil, they are singularly free from typhoid fever and other diseases of which water is the medium of communication. This condition is attributed to the universal custom of copious tea-drinking.

It would be interesting to know if medical men resident in China consider that the comparative immunity of the natives to typhoid fever is to any extent due to the custom of generally drinking water in the form of tea. In Egypt, where the natives are great water drinkers, there is a similar relative immunity as compared to Europeans. Of course, in this country this is ascribed to an acquired immunity from insanitary environment. A similar natural immunity is well illustrated by the evidence of opponents to the introduction of new water supplies in rural villages in England who generally produce "the oldest inhabitant" who has never "himself nor his father before him had any trouble from drinking the water." I remember one resident at Knaresborough who was accustomed to drink from the local river saying, "It's meat and drink to me." Evidently immunity to typhoid fever is sometimes acquired by other means than either anti-typhoid inoculation or a previous attack. At the same time I am afraid that neither the serum of the natives of China, Egypt, nor English rural villages would show "clumping of typhoid bacilli" or stand any other test based on scientific investigation.

I am, Sirs, yours faithfully,

J. S. PURDY, M.D., C.M. Aberd., D.P.H. Camb.

Port Said, Egypt, May 16th, 1906.

THE VALUE OF A SERUM (DOYEN'S) IN CASES OF MALIGNANT DISEASE.

To the Editors of THE LANCET.

SIRS,—I am very much astonished at the late publication of the report of Dr. A. Paine and Dr. D. J. Morgan,[1] considering that this report deals with the treatment given to patients in the early months of 1905 whose treatment had been interrupted after a few weeks. Although the report has thus lost the best part of its value I feel the obligation, in view of the extraordinary severity with which a treatment has been condemned though it has scarcely been studied, to refute its conclusions.

I must state first of all that the Commission from the Cancer Hospital of London, whose visit I had accepted and to whom I had on several occasions submitted a certain number of the patients under treatment in my hospital, *ought to have drawn up a report on these patients*—viz., *on the results of my method of treatment as carried out in my hospital and under my direction.* I was given to understand soon after that these gentlemen were not going to report on the cases treated in my hospital which they had examined in Paris but on the cases treated by them at the Cancer Hospital with tubes of vaccines which they had asked me to intrust to them. I then sent them information that I could in no way accept a report of this kind and that I could not take any responsibility for the treatment of patients whom I had not examined myself and in whose cases I could not determine myself the dose and the interval of the injections. These gentlemen have not thought themselves obliged to pay any attention to my objections, in spite of my letter of Sept. 1st, 1905, to Mr. C. Ryall, worded as follows:—

I was very sorry not to see you in London. I am not at all astonished that you have not obtained the same results with your patients which I am accustomed to obtain, as so far great difficulties have presented themselves in fixing exactly the degree of intensity of the treatment for each individual case. I am making further researches in this direction and will keep you informed of same. It is, therefore, impossible to form a judgment of my method by the cases treated by others than myself, as cases showing negative results do not prove anything.

It is at the present time impossible for me to collect my patients for some weeks yet. I hope to be able to bring them together towards the end of September or beginning of October. I beg, therefore, to ask you whether it will be possible for you to come to Paris at this date with Dr. Paine in order to complete the observations already made by you at my hospital. I shall also show you a new series of much more interesting experiments than those which you already know. Be good enough, my dear colleague, to remember me kindly to Dr. Paine.

Mr. Ryall and Dr. Paine have not thought it necessary to pay any attention to this letter. I need not qualify this procedure. I only wish to state that my apprehensions were justified.

With reference to the report by Dr. Paine and Dr. Morgan, I beg to submit you the following observations:—

I. Clinical Experiments.

The following is a recapitulation of the nine cases treated:—

CASE 1.—Male, aged 54 years. Recurring epithelioma of the neck; 15 injections between March 27th and May 8th. General condition remains good. Weight increases by 4 pounds. The injections are discontinued because the tumour has grown.

CASE 2.—Male, aged 72 years. Recurring epithelioma of the lip; 12 injections between March 27th and April 22nd. Suppuration of the ganglions. Death on June 2nd.

CASE 3.—Female, aged 48 years. Cancer of the breast; eight injections between March 31st and June 8th. Augmentation of tumour; operation.

CASE 4.—Female, aged 63 years. Recurring cancer of breast. General condition bad; five injections between March 28th and April 10th. The patient grows thinner; no change in condition of breast.

CASE 5.—Male, aged 66 years. Epithelioma of tonsil and of the ganglions of neck; nine injections in January, 1905, at the hospital of Dr. Doyen; diminution of pains and slight amelioration. Return to London in February and reception at Cancer Hospital on April 12th; 17 injections between April 14th and June 7th. Momentary amelioration. Aggravation.

CASE 6.—Male, aged 61 years. Recurring epithelioma of the lip and cheek; 16 injections between May 2nd and June 19th. Aggravation.

CASE 7.—Male, aged 58 years. Epithelioma of the ear and neck; eight injections between May 20th and June 17th. Death on August 27th.

CASE 8.—Female, aged 55 years. Cancer of left breast; four injections between May 5th and June 13th. Treatment discontinued.

CASE 9.—Female, aged 52 years. Cancer of neck; six injections. Treatment discontinued.

These patients have received four, five, six, eight, 12, 15, 16, and 17 injections. In Case 8 the four injections have been made in eight days—viz., one injection every other day. In Case 4 five injections have been made in 12 days. In Case 9 the length of time of the treatment has not been stated. In Case 3 the eight injections have been made in 68 days, at average intervals of eight and a half days. In Case 7 the eight injections have been made in 28 days—viz., two per week. In Case 2, 12 injections have been made in 25 days—viz., one injection every other day. In Cases 1, 6, and 5, 15 injections in 41 days, 16 injections in 47 days, and 17 injections in 53 days—viz., approximately, two injections per week.

I am, therefore, obliged to state that these experiments have been too short and have been carried on with a too limited number of patients. Besides that, I was under the impression, as I have mentioned above, that my colleagues of the Cancer Hospital wished to examine the results of the treatment obtained with patients whom I had on several occasions submitted to their examination in Paris. I have already spoken about the difficulties of employing the anti-neoplastic vaccination and I have asked them to observe that the treatment cannot give the same results obtained here if practised by colleagues who, clever as they may be, are experimenting with it for the first time. I am therefore obliged to come to the conclusion that the experiments of anti-neoplastic vaccination made at the London Cancer Hospital must be considered as the negative results of a period of trial experiments.

[1] THE LANCET, April 7th, 1906, p. 970.

Besides that, Mr. Ryall, at the Royal Medical and Chirurgical Society, has asserted that the effect produced by the treatment is greater in Paris on account of the moral effect (or action?) on the patients who arrive in order to be healed than at the Cancer Hospital where they know that the treatment is only given in an experimental fashion. It is useless to discuss an argument of this kind. My only answer is that if the treatment has not produced in London the same results which it gives in Paris the reason is that the treatment is not used in London in the same way as in Paris, where in reality we had had five years more of clinical experience. When Mr. Jacobs began to study in Brussels the effect of my vaccines he had first passed through a period of trials and of negative results. Later, when he had got accustomed to regulate better the doses and the intervals between the injections by measuring the effect produced by the examination of the opsonic index he has obtained favourable results. The authors of the memoir have therefore tried to arrive too quickly at conclusions. One day Professor T—— of Paris pointed out to Professor Roux the extraordinarily incoherent actions of some physicians who made indiscriminate injections with the antidiphtheria serum. "Soon," he was answered by Professor Roux, "they will inject the horse and the ether too."

II. *Experimental Researches.*

The results obtained by cultures from tumours equally prove that these experiments have been carried on under unfavourable conditions.

The authors state that they have discovered the micrococcus neoformans in 25 per cent. of the cases examined by them, whereas Jacobs has found it in more than 90 per cent. of the tumours of which he has made cultures. The culture of the micrococcus neoformans is daily made in the hospitals of Paris by a large number of internes, who obtain at least 90 per cent. of positive results by exactly following the technique (or method?) indicated by myself. Referring besides this to the percentage of the cultures obtained in my laboratory it is evident that the method employed has been defective. Cultures of the micrococcus neoformans are sometimes very difficult to obtain; the large number of negative results mentioned in the memoir of the Cancer Hospital proves that these cultures have not been sown under the necessary conditions. With reference to the experiments on animals, I find myself obliged to form the same conclusion that these inoculations have not been made with virulent cultures, for among the figures stated of experiments on 110 mice and 90 rats, a large number of positive results ought to have been obtained if these inoculations had been made as they are made in my laboratory.

Finally, Dr. Paine and Dr. Morgan give their criticism on the pathological specimens which I submitted to Dr. Paine in Paris a year ago. I must acknowledge that a year ago I possessed much fewer really *telling samples* than I have at my disposal at the present time. But I am led to the conclusion that the very severe criticism passed by the authors of the memoir is at the present time without interest and only of retrospective value as they have not examined the most telling samples which have been prepared after their visit to my laboratory.

I give, therefore, the following answer to the authors of the memoir. 1. Whereas they have obtained no favourable results from the anti-neoplasmic vaccination with nine patients treated for some weeks the results mentioned in my previous publications have been confirmed in the cases which have been under treatment for two, three, four, and five years. 2. Whereas the experiments made with animals at the Cancer Hospital have given no result worth mentioning the continuous experiments made in my laboratory during the same period of time have shown a large number of positive results which have been submitted to the examination of Professor Cornil, and of the Anatomical Society of Paris.

It is one of the rules of experimental research that negative results do not prove anything. For this reason I conclude that the negative results obtained at the London Cancer Hospital from the clinical point of view, as well as from the experimental point of view, can in no wise be cited in order to discuss either the pathogenic action of the micrococcus neoformans, or the results of the anti-neoplasmic vaccination and have to be considered purely and simply as of no importance. I may add that during a century the etiology of tuberculosis has been discussed and that it is unscientific with reference to so difficult a question as the treatment of cancer to discuss a new method in the absence of its author and without the latter being enabled to answer.

Believe me, my dear Sirs, yours very truly,

(Signed) Dr. DOYEN.

*** We are not responsible for the translation.—ED. L.

DEATHS UNDER ETHYL CHLORIDE.

To the Editors of THE LANCET.

SIRS,—A perusal of Dr. T. Y. Simpson's letter in your issue of May 19th would lead the casual reader to conclude that he had been treated by myself in a manner quite inexcusable. I think the only way in which I can satisfy both Dr. Simpson and your readers that this is far from the case is to give you details as to the manner in which I obtained particulars of the fatality in question.

In August last I was told by a lay friend in the South of England that a death under ethyl chloride had just occurred at a hospital in Plymouth, and I accordingly wrote a letter to the house surgeon of the Royal Albert Hospital asking if he would be good enough to furnish me with any particulars in regard to this fatality, if he was able to do so. The letter was addressed simply to "The House Surgeon, Royal Albert Hospital, &c." Some weeks later I received a letter card with no address as a superscription and signed only by initials (what initials I really forget), saying that I should find some particulars in the *General Practitioner and Surgeon* of this accident. With some difficulty I obtained the copy of this paper (the issue of August 5th, I think) which contained a note on the accident. I also found that it had previously been published in the *Western Independent*.

On March 6th of this year I received a letter from Dr. Simpson (which I inclose for your perusal), apologising for not having replied to my inquiry sooner and sending some further details as to the death under ethyl chloride. I looked up Dr. Simpson's name in the Medical Directory and found he was the house surgeon at the Royal Albert Hospital. The Mr. S. H. Ryan, whom he speaks of in his letter as "of Victoria University" I concluded must be a student, as I was unable to imagine a professor or lecturer of that university administering anæsthetics in a Plymouth hospital. Dr. Simpson said "the anæsthetic was administered by Mr. S. H. Ryan of Victoria University, Manchester, for the removal of adenoids, which operation I rapidly performed with a post nasal curette the seventh time this afternoon." This letter is dated March 5th. This statement naturally caused me some consideration, for it seemed capable of several interpretations: (1) that Dr. Simpson performed the operation on the afternoon of March 5th, 1906, for the seventh time in his experience; (2) that he did it on the afternoon of the accident (a date in July, 1905) for the seventh time in his experience; (3) that he performed the operation on the afternoon of March 5th seven distinct times; or (4) that he operated on seven consecutive cases on the afternoon of the fatality. It seemed most likely to me that the second reading was the correct one and so I came to the evidently erroneous conclusion that Dr. Simpson had only performed this operation on six occasions prior to the occurrence of the fatality. For this I owe him an apology, but possibly even he will admit that his sentence is somewhat ambiguous, "deplorable" as my "want of care" may still be! It is surely quite exceptional for a house surgeon in any hospital to perform adenoid and tonsil operations—*wholesale*, shall I say? Certainly I have never been connected with any hospital where this custom obtained.

If Dr. Simpson has been able to curette the naso-pharynx no less than 2000 times during the five years since he took his diploma he is certainly to be congratulated on having obtained so much clinical and operative experience, and I doubt not that there are many throat specialists who will envy him. As to the "accuracy" of my notes, however, and their "veracity," I do not think I am called upon to defend myself. For a very large portion I give chapter and verse, so to speak, at the end of my article, and the remainder are derived from letters sent me by various medical men throughout the country which are open to Dr. Simpson's inspection at any time. I am glad to take this opportunity of thanking these gentlemen for the help they have given me, more especially Dr. Arthur G. Wilkins of Ullswater, Mr. Vernon Knowles of Reading, and Dr. West Watson of Glasgow.

While sincerely regretting that my notes contained anything which Dr. Simpson could construe into "reflecting

on himself" I am compelled to think that the misunderstanding has been entirely due to a misuse of the King's English, on his part. Yours faithfully,

Edinburgh, May 22nd, 1906. THOMAS D. LUKE.

*** Dr. Luke's interpretation of Dr. Simpson's letter seems to us a very natural one.—ED. L.

THE HAMPSTEAD GENERAL HOSPITAL.

To the Editors of THE LANCET.

SIRS,—Since the conference of the local profession of May 5th on this subject (recorded in THE LANCET of May 12th, p. 1340) I have received from the honorary secretary of the King's Hospital Fund a letter explaining "that without attaching any condition (as to the staff of the Hampstead General Hospital) to the grant of £5000 which they have recommended in order to enable the hospital to take advantage of the offer made through Sir Henry Harben of £20,000, they remain of opinion that it is desirable that all general hospitals in London should be staffed by consultants in the usual way." It is necessary to point out that this letter (dated May 8th), though written after the conference of the local profession had been held, was written in ignorance of the opinion expressed at that conference. The King's Fund executive committee was, however, aware on April 9th of the views of the local division of the British Medical Association and was also aware that a conference of medical men was to be held at which those who do not belong to the association would express their views and it seems unfortunate that they should have come to any opinion of this kind without first ascertaining the views of the local medical profession. These views include the unanimous opinion that a large general hospital staffed by consultants is not fitted to the needs of the locality but rather a home hospital staffed by the practitioners of the neighbourhood. Doubtless the authorities of the hospital will fall in with the views of the local profession; it will then be a simple matter for the executive of the King's Fund to withdraw the recommendation associated with their grant of £5000.

I am, Sirs, yours faithfully,

REGINALD A. YELD, M.D. Cantab.,
Honorary Secretary of the Hampstead Division of the
May 15th, 1906. British Medical Association.

ANTERIOR OR POSTERIOR GASTRO-JEJUNOSTOMY.

To the Editors of THE LANCET.

SIRS,—Mr. Moynihan's letter in THE LANCET of May 19th, p. 1430, occasions me surprise and disappointment, for it seems to make it clear that he ignores Mr. Littlewood's work and almost suggests that he desires and designs to annex gastro-enterostomy, lock, stock, and barrel. I had not thought of going into the question of exact dates. To those who remember Mr. Littlewood's original communication to the Leeds and West Riding Medico-Chirurgical Society and the discussion upon it, in which Mr. Moynihan took part, there can remain only one impression, and to those who will take the trouble to look up the illustration which appeared in THE LANCET the prototype of the beautiful drawings in Mr. Moynihan's book seems disclosed. But as Mr. Moynihan appeals to "ascertainable fact" I have obtained the precise date of Mr. Littlewood's first operation with excision of the mucosa and it was performed, according to the infirmary records, on May 24th, 1900, eight days before Mr. Moynihan's. This juxtaposition of dates carries an unavoidable suggestion and I hope it is possible for me without offence to make the suggestion that for once Mr. Moynihan's memory has failed him, and that he has forgotten that he may have known, along with others about the hospital, of Mr. Littlewood's operation and that he has in that way come in the course of five years to regard it as "original in his own mind."

But Mr. Littlewood first made the suggestion at a meeting of the Leeds and West Riding Medico-Chirurgical Society on May 4th, 1900, when discussing a paper by Mr. W. H. Brown on a case of closure of the opening after gastro-enterostomy. Mr. Moynihan was present. Mr. Littlewood, after having practised the operation upon the cadaver, actually performed it upon the living subject, as I have stated, on May 24th. As to the question of priority in publication Mr. Moynihan does not give the date of his communication to the Mirfield Medical Society, but only the date when it appeared in the *British Medical Journal*. Unless I am mistaken Mr. Moynihan's communication at Mirfield was several weeks after Mr. Littlewood's at Leeds. With regard to the clamps, it was hardly more necessary to tell me that Mr. Littlewood was not the first to use Doyen's pattern in intestinal surgery than it would have been to tell me that he did not invent them. What I claim is that he first combined this special application of them with excision of the mucosa and that this is essentially the operation to which Dr. W. J. Mayo gives the name of the Moynihan operation. Mr. Moynihan is a facile and prolific author, but although I do not claim to have read all his writings I had, as a matter of fact, read his eight points, and in spite, or possibly in consequence, of this I was led to ask the question set forth in my former letter.

I think it would be a regrettable circumstance if by tacitly allowing his name to be affixed to the operation Mr. Moynihan should seem to be associated with any act which would tend to obscure or to belittle the work of others in the same field. Let it not be supposed for a moment that I have any intention or desire to belittle Mr. Moynihan's own brilliant and well-known work. That would be unfriendly, futile, and absurd. No one could be associated with him as I have been since the day when he first began the practical study of surgery without fully recognising his qualities. But I fear that in surgery, as no doubt in other human affairs, when a man's sound has gone out into all lands insidiously there grows in him a tendency to regard himself as the chief, if not the sole, authority upon the particular question at issue.

I am, Sirs, yours faithfully,

Leeds, May 21st, 1906. EDWARD WARD.

REFORM OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

To the Editors of THE LANCET.

SIRS,—May I draw attention to the reply of the Prime Minister to Sir William Collins's question on this matter, reported in THE LANCET of May 19th, p. 1443? This reply states that "any change in the constitution of the Royal College of Surgeons of England can only be carried out by legislation unless such change has the support of the governing body of the College." I should like, Sirs, to ask what foundation there is for this statement, which is equivalent to saying that all proposals for reform must emanate from the body to be reformed, and which, as our old friend Euclid says, is absurd. Was this dictum put into the mouth of the Prime Minister by the Clerk to the Privy Council, Mr. Almeric FitzRoy? I observe that this gentleman was a guest at the College dinner held last week. Truly, the Council knows how to keep on the right side of the powers that be. It is probable that College reform would be hastened if Members generally, when requiring a consultation, were to avoid calling in any of the 24 gentlemen who so persistently deny them their corporate rights.

I am, Sirs, yours faithfully,

May 21st, 1906. W. G. DICKINSON.

A HOME FOR INVALIDS.

To the Editors of THE LANCET.

SIRS,—The daughter of a medical man, who many years ago bequeathed a large sum to the British Medical Benevolent Fund, is anxious, through an unforeseen diminution of income, to let her well-furnished house or to receive as paying guests those who may require rest or change. The house is at one of the favourite south Devon seaside places, situated on high ground, sheltered from the north and east winds and with fine views of the surrounding country which is noted for its beauty. The accommodation is ample and there are good gardens, a paddock, conservatory, &c.

If any of your readers would like further particulars, either for themselves or their patients, I shall be glad to communicate the address. Thanking you on behalf of my committee for so kindly finding space for this communication, I am, Sirs, yours faithfully,

W. E. SARGANT,
Honorary Secretary British Medical Benevolent Fund.
St. Bartholomew's Hospital, E.C., May 16th, 1906.

THE ROYAL INSTITUTE OF PUBLIC HEALTH: THE HARBEN LECTURES.

To the Editors of THE LANCET.

SIRS,—I shall be obliged if you will allow me to say that, owing to the great interest which has been evinced in the forthcoming Harben lectures, which are this year being delivered by Professor Elie Metchnikoff, of the Pasteur Institute, Paris, it has been found desirable to make arrangements for these lectures to be given in a larger lecture theatre than that of the institute.

Through the kindness of the council of King's College the large lecture theatre of that college has been placed at the disposal of the institute, where the lectures will, therefore, be given on Friday, May 25th, Monday, May 28th, and Wednesday, May 30th, at 5 P.M.

A reception will be held at the Royal Institute of Public Health, 37, Russell-square, on Friday, May 25th, at 3.30 P.M., at which Professor Metchnikoff will be present, and to this, as well as to the lectures, all those interested are cordially invited.—I am, Sirs, yours faithfully,

JAMES CANTLIE, M.A., M.B. Aberd.,
London, W., May 23rd, 1906. Honorary Secretary.

THE GENERAL ASSEMBLY OF THE INTERNATIONAL ASSOCIATION OF THE MEDICAL PRESS.

(FROM OUR SPECIAL COMMISSIONER.)

(*Concluded from p. 1206.*)

Lisbon, May 3rd.

THE SECOND DAY.

RETURNING to the meetings of the representatives of medical journals, another general assembly of the International Association was held on the morning of April 18th. So as to avoid the necessity of meeting again in the afternoon a long sitting was held. The old question of summaries of articles was again discussed. Professor Posner and Dr. Blondel have had this matter closely at heart ever since the question of uniting the medical press into an association was brought forward. They are anxious that scientific journals should issue summaries of the original articles which they publish, and their line of argument is as follows. That it is, perhaps, not so necessary for the well-known languages but that it would be particularly useful in regard to the languages which are less familiar. Also, when a foreign paper is scanned for quotations the reader, as a rule, only stops when he sees a well-known name, thus new talent is rarely discovered. But summaries might be read, however unknown their authors, and it would be best if such summaries could be written by the authors themselves. As matters now stand, it often happens that when some eminent man of science announces that he has made a discovery it turns out that a similar discovery had been made some years previously but by an unknown person and therefore had passed unperceived.

Mr. ADOLPHE SMITH pointed out that the medical journals would probably do what in practice proved most to their interest. In England such summaries were often written, especially if they dealt with a question of general interest. They might then, if otherwise suitable, be sent to the daily papers for quotation. On the other hand, there were persons employed and paid by medical journals to read foreign journals and to make extracts. The association as a body could not interfere with the work of these press reviewers.

Dr. BLONDEL replied that he did not desire to interfere with the press analysers otherwise than to help them in their work. If they were paid according to what was published—that is, the amount of translations which they did—they would more easily be able to find what was worth translating if they had before them the sort of summaries proposed. As for the scissors-and-paste papers they did not in any case pay their contributors.

Finally, it was agreed that medical journals should be requested to publish frequently and generally summaries of their more remarkable and original articles with a view especially of bringing these researches more readily to the knowledge of other countries. Such a measure was, however, in no way to interfere with, but rather to assist, the work of those whose business it was to read, and to make translations from, foreign journals.

The next matter discussed was the question of medical men signing articles that appeared as advertisements or other articles published in the political and lay press; and finally, articles that were signed "Doctor," though they were not written by medical men. Again, this sometimes was followed by a consultation given to the readers of the paper in answer to questions which they asked. This, it was suggested, might be dealt with as illegal practice of medicine.

Dr. DÉJACE (Belgium) moved:—

That all persons making an abusive use of the title of doctor or any other scientific title so as to write in political and other lay papers should be punished; further, that all nationalities be urged to endeavour to obtain from their respective Governments the enactment of a law that will assimilate the usurpation of such titles to a common felony.

Dr. BLONDEL observed that in France there used to be an inferior title which gave the holder the right to practise medicine. He was known as an *officier de santé*. Now this had been abolished; consequently all the holders of the title who survived called themselves "doctor." The French Medical Union had prosecuted one of these practitioners but had lost its case.

Professor POSNER, who now occupied the chair for the first time, proposed first to invite the association to make the utmost use of existing laws to attack such abuses; secondly, to obtain, where necessary, new laws so as to punish those who unjustly assumed the title of "doctor"; and thirdly, to penalise likewise those who gave medical consultations in the lay press.

Dr. CORTEZO remarked that there was also the question of pseudonyms. A person might be a qualified practitioner and might sign an article "Doctor" but give another name than his own.

Dr. BLONDEL replied that a doctor could only practise if he held his diploma. He must prove that he was a doctor whatever name he took. The more practical question was not merely to denounce these evils but to find someone who would undertake the prosecution of the delinquents. At present there were only the medical syndicates or unions, unless the Associations of the Medical Press themselves took such matters into hand, capable of taking legal steps.

Dr. JOSÉ CHABAS was anxious that better control should be exercised over the sort of advertisements that were published.

Professor POSNER said that in Germany medical advertisements that had appeared in the political press had been excluded from the medical press.

Dr. DÉJACE urged that the editor should control the advertisements.

Mr. SMITH insisted that this was done in England and editors often refused to allow the publishers to insert advertisements that had been offered to them.

The question was then raised as to whether there was any means of controlling the medical advertisements that appeared in the political press. Could the Associations of the Medical Press exercise a sort of censorship over such advertisements?

Dr. DÉJACE said this was quite impossible for people would then advertise that they were approved by the medical press. They would have the responsibility of condemning certain advertisements and that was a comparatively light matter but they would by inference appear to approve all the other advertisements, which would be far too heavy a burden to bear. For instance, in Belgium an objectionable advertisement appeared in some papers and the advertiser was prosecuted. It so happened, however, that he was acquitted. What was the consequence? Instead of being suppressed he now advertised all over the country that he sold the only speciality which had been approved by the tribunals.

The discussion now began to crystallise. First, a motion was carried to the following effect:—

The general assembly of the International Association of the Medical Press decides to put on the agenda the question of publicity in the interior part of journals and outside the space reserved for advertisements and intrusts Professor Posner and Dr. Blondel with the task of preparing a report on this subject.

Then, Dr. AZEVEDO NEVES proposed the following motion which was accepted:—

The National Bureaux (committees) of the association should request their Governments to enact laws to the following effect:—

1. The publication of medical consultations and of articles in political journals by persons who are not medical men and who conclude in favour of the employment of certain medicaments will be considered as the illegal practice of medicine. 2. All who are not fully qualified are prohibited from employing the title of Doctor in Medicine. 3. The local association, and all local associations which defend professional interests, must act as a voluntary police to secure the application of these articles.

Dr. BLONDEL now began to discuss the future international medical congresses. He was anxious that the rights and privileges of all the members of the International Association of the Medical Press should be fully recognised; that they should be given free admission and every facility in the doing of their work. On the other hand, it was very desirable that the association should, on its side, be of use to the congresses. This, he thought, might easily be managed. As matters now stand when a general secretary wishes to make known anything relating to his congress, he is obliged to address himself individually to each person. In future it should suffice for the secretary of a forthcoming congress to send just one letter to the general secretary of the International Association of the Medical Press. This letter would be at once set up in type and as many copies printed as there are national secretaries in communication with the general secretary. These national secretaries being likewise connected with the press can get the letter translated and set up and a proof forwarded to all the papers of their nationality that belong to the association. Thus with hardly any trouble or expense a wide publicity would be secured and information given useful to all concerned. This matter should not be neglected and all national secretaries should hold themselves in readiness to coöperate promptly with the international secretary, so that the association might really be able to render effective service and thus acquire a better right to claim the necessary privileges.

Mr. H. W. ARMIT gave some details concerning inquiries made from England about the medical press in the United States of America. So far as the forming of an association of the medical journals is concerned the prospect was not very brilliant, but perhaps a society would be formed of the State medical journals and these were a good class of publications.

The agenda paper was now exhausted but Mr. SMITH rose to propose that the general assembly should elect Professor Cornil as honorary President. He pointed out that Professor Cornil had never failed to give practical proof of his devotion. He was the first President of the International Association of the Medical Press. He thus lent his name and influence to an organisation which could at that time be hardly said to have existed. When a movement was successful and an association flourishing there was no difficulty in finding a president. But the real merit was to help in the day of doubt, of weakness, of hesitation. This was precisely what Professor Cornil had done and so that such devotion should not be forgotten the speaker urged that they should elect Professor Cornil as honorary President.

The members present all rose and enthusiastically adopted this proposal.

The PRESIDENT, Professor POSNER, now declared that the general assembly had terminated its task. It only remained for him to thank all who had contributed to this result. He thought that the association had become a living reality and agreed that those who had helped most in the early beginning merited the warmest gratitude. Especially might this be said of the general secretary, Dr. Blondel. Then turning from the past to the present, Professor Posner declared that they all felt greatly obliged to the Portuguese Association of the Medical Press for the excellent manner in which its members had received their colleagues from other countries. First among the Portuguese must rank Professor Bombarda, who was as indefatigable in representing the Portuguese medical press as he was in organising the Fifteenth International Congress of Medicine. They would always cherish a pleasant and grateful recollection of their Portuguese hosts. With this the President declared that the general assembly stood adjourned.

Apart from these business meetings it should also be mentioned that the Association of the Portuguese Medical Press entertained the representatives of the foreign medical press at a banquet given at the Hotel Braganza. Many and enthusiastic speeches were delivered and the most friendly words were uttered between the representatives of various nations, all rendering homage to the services of each in the cause of science which was enthusiastically recognised as the great peacemaker among nations. Then there were some old pupils of Professor Cornil present who did not fail to express their gratitude to their old master. Of course, Professor CORNIL said how flattered he was to find that French books and methods were so widely known in Portugal. He believed in such international diffusion of knowledge and for this purpose he had always issued a journal and was glad to preside at Rome and then at Paris when there first arose the question of gathering the medical press of the world into one vast confederation. Professor BOMBARDA said that he was sanguine as to the great and beneficent influence which the association would have in the future and Dr. BLONDEL observed that this would be the more certain if at first they proceeded prudently and did not attempt more than their newly acquired strength seemed to justify.

When the international association was first started there were but three nationalities represented; now there were 12. It will be seen, therefore, that the members of the association had every reason to be of good cheer. They transacted their business successfully and also spent a pleasant evening complimenting each other.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Public Health Laboratories.

THE building of the Public Health Laboratories in York-place, Oxford-road, was mentioned some time ago but the immense value of the work done there for the community at large justifies some further reference to the subject. The work of Professor Sheridan Delépine and his staff has grown far beyond anticipation since bacteriological examinations were first undertaken on behalf of public authorities. So much so is this the case that these laboratories may be said to form a bacterial research depôt for Lancashire and the North, and questions as to food, water, air, impurities, contaminations, and suspected sources of disease in man or animals are constantly referred to York-place. All has been done under the auspices of the Victoria University which has thus been led to undertake a great public duty. The idea was that there should be in a district such as this, and in a university city, a centre where all questions of public health could be worked out, where men could be trained for public health work, and where authorities could go for information or help. It seems as if Manchester had led the way in this matter. Some places—as, e.g., Sheffield—have bacteriological laboratories, but they are purely municipal. That the example is a good one is shown by its being followed by Edinburgh and Liverpool, to be followed in the near future, it is said, by Birmingham. Besides students going in for diplomas in public health and in veterinary State medicine there are others engaged in research in pathology, bacteriology, bacteriological chemistry, sanitary chemistry, or taking post-graduate courses of clinical pathology and bacteriology. Victoria University granted diplomas in 1889 but in was only in 1892 that the teaching of public health was fully organised. At first the staff was very small but it soon outgrew its quarters, and in 1894 the pathology department was moved to the new medical school buildings. The council recognised "that it was one of the duties of a university to take an active interest in scientific work which can be of benefit to the public, apart from teaching, more especially where such work was not already undertaken outside." The growth of the pathological work has made it necessary to remove from the medical school to the new buildings in York-place, which were erected from plans prepared, and requirements specified, by Professor Delépine, at a cost of nearly £11,000. They were opened in January last and comprise bacteriological laboratories and class-rooms for teaching, for the investigations required for public authorities and for research, a chemical laboratory, a museum of public health, a library, director's room, and other apartments. The work for public authorities is growing. In 1895–96 about 300 reports of investigations were issued and the fees were below £75. In 1900 no fewer than 4652 reports were given, the fees amounting to £1682. In 1904 there were 5840 reports. The work is expensive and not remunerative. 120 authorities have consulted the director and since 1892 370 students have studied bacteriology. Last year there were 70 students. The classes included those for medical men preparing for public health service, chemists intending to become

public analysts, and agricultural chemists; there were medical men, chemists, and veterinary surgeons engaged in special researches; also post-graduate courses in clinical pathology and some of the recent advances in microscopical, bacteriological, and chemical methods of diagnosis. There are students also taking dental bacteriology. Of course, all the work for public authorities takes from that which can be given to research which is in consequence somewhat hampered and, moreover, suffers from the absence of any research endowment. The value, however, of the public work is so great that if given up it would be felt over a very wide area as a grave misfortune. It is hoped, therefore, so to re-organise the work that the senior members of the staff may be able to give more time to independent research, being relieved of some of the routine work by the juniors. "As it is, an income from fees has to be made and worked for." However, the investigations continually called for by public authorities keep the laboratory workers in touch with the various matters influencing public health and cannot fail to be useful to those who intend to devote themselves to that special branch. The help and advice kindly given at first by Professor Delépine have grown almost beyond bounds and have come to be looked on as a necessity, so that their discontinuance is not to be thought of. In Lancashire and Cheshire, beyond the county councils, nearly all the public authorities have a standing arrangement with York-place, but aid has been given to "Barnsley, Bristol, Carlisle, Burton-on-Trent, Derby, Doncaster, Faringdon, Guisborough, Halifax, Huddersfield, and Leeds, to mention only a few."

The New Infirmary.

At its meeting on May 8th the board of the Manchester Royal Infirmary accepted the tender of Messrs Arnold and Son of Doncaster for the building of the general superstructure. The same firm has made the foundations and built the basement floor so that the board of management has had full opportunity of noting the character of its work. Mr. Charles Hopkinson, the chairman of the building committee, explained that the tender was for the work of two sections, A and B. The former included the three large four-storey blocks and all the medical and general surgical departments. Section B included the lodges on the outside, the casualty and special block, the superstructure of the laundry, and of the septic and pathological block, and of the corridors. The estimate for the former was £240,000 and for the latter £63,000. The tenders were asked for on the basis of finishing the work on Sept. 29th, 1908. From further statements it appears that nearly, if not quite, half a million will be paid by the time the new infirmary is ready for work. It may be remarked that though the contractors are from Doncaster it is stated that 94 per cent. of the labour employed will be local.

Small-pox.

Small-pox has again broken out at Ashton-under-Lyne and a few days ago five cases had been taken to hospital. In his annual report Dr. A. E. Brindley, the medical officer of health of Bury, puts forward the suggestion that there should be an inquest on all persons dying from small-pox. He would get over the danger to jurors by having a proper inspection room. The publicity of such a proceeding would soon, he considers, bring home to the uneducated public the real dangers brought about by the antivaccinationists, and one such inquest, he thinks, would probably be enough to convert a juror, if conversion were needed.

Suicide and Insanity.

The Manchester coroner, Mr. E. A. Gibbons, held an inquest recently on the cause of death of a man, in a comfortable position in life, who was found hanging from a beam in the hay-loft. For four or five years he had been troubled with what he called heart complaint, but which the medical evidence stated was palpitation due to dyspepsia, and his medical adviser told him he had no reason to worry about his heart. The medical adviser said that he was always rational except on the subject of his heart and, in answer to the coroner, said he thought the depression would amount at times to what is known as pathological melancholia. The widow said that her husband was 29 years old and except his heart trouble she knew of nothing to cause him any worry. He left home in the morning in his normal condition of mind and health and quite cheerful. He never gave her reason to think he contemplated suicide. He was prosperous in business. When found he was quite dead. A new razor was found in his pocket which the coroner said suggested that it might have been obtained with the idea of taking his life, but he had possibly changed his mind and preferred death by hanging. The coroner told the jury that no one felt more than he did the gravity of returning verdicts of "Suicide while insane," and the way in which juries nowadays rushed into finding such verdicts was shocking. The verdict of the jury was "Suicide, but there was insufficient evidence to show the state of his mind at the time." The solicitor for the family asked if the jury would wish for further evidence on that point, "as it was a serious matter for the relatives." The coroner said that if the jury wanted they might withdraw their verdict and might hear further evidence. But after deliberation for several minutes the foreman announced that after again going thoroughly into the evidence they confirmed their verdict. There is no doubt that a large proportion of the findings of suicide while temporarily insane are due to an easy-going and good-natured feeling on the part of coroners' juries that a verdict of suicide simply "was a serious matter for the relatives."

May 22nd.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Visit of Baron Takaki, F.R.C.S., to Tyneside.

AT the present time one of Japan's new battleships, the *Kashima*, is lying in the Tyne and the consequent presence of so many representatives of our new ally has created a fitting opportunity to do them honour. On May 15th Baron Takaki spent the morning witnessing a series of operations at the Royal Infirmary, in which he evinced the greatest interest. In the afternoon a visit was paid to the new infirmary on the Leazes, and at 5 P.M. Baron Takaki delivered a lecture in the College of Medicine on Medical Education in Japan. Sir George Hare Philipson occupied the chair. In an interesting address Baron Takaki reviewed the history of Japanese medicine from the earliest times, when the legends of one famous doctor were handed down to his successors, through the period when Chinese medicine was introduced by way of Korea, on to more than three centuries ago when the Spanish and Portuguese went to Japan and tried to spread the Western knowledge in which medical science was included, but it was soon found that conquest was at the bottom of their zeal and the Japanese were obliged to shut themselves in from outsiders. Thus it happened that for 273 years Japanese medicine had remained stationary. About 70 years ago Western medicine was again introduced by the Dutch who built a hospital and educated some students. About 1868 Dr. William Willis went to Japan and is now considered the father of practical surgery there. Up to the time of finishing the recent war with Russia the principal medical officers of the Japanese Imperial navy were those educated almost entirely by English medical officers. But though admitting the great services of the English the Japanese Government decided years ago that the future study of medical science should be according to the German school. There were now in Japan 13 medical centres—viz., three universities, five Government medical colleges, three local government medical colleges, and two entirely private schools. At all these centres save one the subjects taught were almost equal to those taught in Germany and a large number of graduates went to Germany and returned to Japan as teachers. There was much difference of opinion as to the comparative merits of the German and the English schools of medicine but as Baron Takaki pointed out it was principally a question of training and he himself having been trained in this country had always upheld the English school. The collegiate system was being developed in Japan and they were doing all that they could to educate the students along the lines of original research; in this they were not hampered by any antivivisection party. The address was very interesting and was much appreciated by those privileged to hear it. In the evening Baron Takaki was entertained to dinner by the medical profession of Newcastle and district, Sir George Philipson again occupying the chair. On the following day at a special convocation held in the banqueting hall of Durham Castle the degree of D.C.L., *honoris causâ*, was conferred on Baron Takaki. On arrival at Durham the undergraduates gave their visitor

a very enthusiastic welcome, the horses being taken from the carriage which was dragged up the hilly streets of the city by willing hands. From several of the University buildings flags were flying and everywhere the Japanese flag was prominent. The Dean of Durham presided at the convocation. Sir George Philipson, in presenting Baron Takaki, said that kindred qualities conduced to the feeling of mutual friendship. In the case of Britain and Japan this sentiment had found a happy example. The achievements of Japan in her recent contention with Russia had won the whole-hearted admiration of the people of Great Britain and in that national recognition the University of Durham was wishful to take a share and in consequence had convened the special convocation to do honour to the Imperial navy of Japan and to confer on its distinguished Surgeon-General its highest distinction.

May 22nd.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Welsh Medical Dinner.

THE annual London Welsh medical dinner took place on May 18th, under the presidency of Dr. F. T. Roberts. There was a large gathering which included Sir John Puleston, Mr. W. Ll. Williams, M.P., Professor Herkomer, Mr. J. Lynn Thomas, C.B., Dr. S. Cromwell Jones, Mr. H. L. Hughes, Mr. D. J. Williams, and Mr. Howell T. Evans, J.P. Sir John Puleston proposed the toast of "The Medical Profession," to which Mr. Robert Jones replied, and in the course of his speech advocated the establishment of a Welsh medical school. Mr. S. T. Evans, K.C., M.P., who replied for the "Guests," heartily agreed with the suggestion of a Welsh medical school and said that there was an excellent opportunity for founding one at Cardiff.

"Viewing the Body."

At an inquest held at Exeter on May 14th the jury were required to view the body of a deceased person in a very advanced stage of decomposition. The city coroner expressed his regret to them that he could not do away with the necessity of their inspection and added that he had communicated with the town clerk with the object of his bringing before the city council the desirability of their providing a glass receptacle in which such bodies could be placed for the jury to view.

The Nursing at Isolation Hospitals.

A conference of representatives of authorities in the administrative counties of Worcester, Gloucester, and Bristol was held at Gloucester on May 12th to consider the desirability of adopting a scheme for the temporary transfer or loan of nurses between isolation hospital authorities to meet the fluctuating requirements of hospitals for infectious diseases. Mr. W. F. Hicks-Beach presided and a short explanation of a scheme based on one in force in the West Riding of Yorkshire was given by Dr. J. Middleton Martin, the county medical officer of health of Gloucestershire. Motions were carried in favour of a scheme for the transfer of nurses similar to that in force in the West Riding and a committee was appointed to frame details of the proposal and to submit the same to a future conference.

Death Certification by an Unregistered Practitioner.

At Penzance on May 18th an inquest was held on an unmarried woman, aged 55 years, who was stated to have died from cancer. The deceased had been recently attended by Mrs. Mary Williams, who was described as an M.D. of Boston University and whose death certificate the registrar had refused to accept. Mrs. Williams in her evidence said that she had attended the deceased for some time and some months ago had called in a local medical practitioner in consultation over the case. The sister of deceased expressed satisfaction with the treatment that her relative had received from Mrs. Williams. The jury returned a verdict that "death was due to natural causes" and expressed a hope that in future a registered medical practitioner would be called in whose certificate would avoid an inquest and spare the relatives unnecessary pain.

Chipping Sodbury Rural District Council.

At the meeting of the Chipping Sodbury rural district council held on May 16th it was reported that the draft order of the Local Government Board, to which allusion was made in THE LANCET of May 12th, p. 1352, had recently been signed by the President of the Board and would be submitted to Parliament for confirmation.

May 22nd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Disciplinary Powers of the Managers of the Edinburgh Royal Infirmary.

THE members of the medical profession as well as the general public learnt from their morning newspapers some days ago that the managers of the Edinburgh Royal Infirmary had suspended the infirmary tickets of five young graduates for six months and had forbidden them on any pretext whatsoever to enter the infirmary during that period. The notice to this effect was posted at the gate of the infirmary and the names of the five gentlemen were given. The reporters to the newspapers saw this and of course sent it to their offices, with the result that the names of the five gentlemen became universally known. The names include some of the ablest graduates recently turned out by the Edinburgh School and highly esteemed from the admirable propriety of their behaviour and the high excellence of their work as residents in the infirmary and elsewhere. In these circumstances such strong action on the part of the managers has aroused equally strong feeling on the side of the friends of the "culprits" or "victims" according to the standpoint taken. The notice posted at the infirmary gate disappeared without due authority but was replaced with an explanatory statement to the effect that the offence consisted in a contravention of Rule 5 of the special rules for residents. Rule 5 reads as follows: "No one excepting residents shall remain in the residency after 11.30 P.M. unless he be required for special duty in connexion with infirmary work." The breach of this rule, it is said, resulted in noise and disturbance in the residency which is further a breach of Rule 3. The latter reads: "No loud music or noise shall be allowed in the residency at any time and no music whatever after 11 P.M." The gentlemen who have been suspended were past, not present, residents and it is stated that they were in the residency 20 minutes beyond the regulation time. Residents and past residents were, it is understood, taking leave of one another and one is on his way to India, if he has not already reached his post there. Such are the facts. The air is full of rumours as to what is to follow; that feeling is running high is shown by the tone of letters which have appeared in the Edinburgh newspapers.

Royal College of Surgeons of Edinburgh.

The Royal College of Surgeons of Edinburgh has elected Dr. J. W. B. Hodsdon to represent the College on the General Medical Council in succession to Sir Patrick Heron Watson. It has also appointed Dr. R. McKenzie Johnston to be secretary and treasurer to the College in place of Dr. Francis Cadell, resigned.

Cow's Milk in the Spring and Legal Requirements.

A case has recently been decided in the Edinburgh Sheriff's Court which is of considerable medical interest. The case was briefly as follows. A milkseller was charged with selling milk deficient in fat to the extent of 15 per cent., as shown by chemical analysis. The standard is 3 per cent. and in the milk examined it was only 2·51 per cent. The defence was that the milk was as it had been supplied from the dairy and the dairyman was strong in his assertion that the milk as it left his hands was genuine. Mr. T. W. Drinkwater gave evidence to the effect that in the spring-time there was a tendency for milk to become poorer. In April and May, he said, milk almost invariably fell below the standard as to the percentage of fat, and the probability was that no dairyman in Edinburgh could stand the statutory tests during these months. The sheriff, in view of these statements, deferred judgment. When he did give judgment he recognised that milksellers were under a distinct hardship in the existing state of the law and that had been recognised by the Board of Agriculture in a circular. He, however, could not take that circular into consideration. The circular was valueless to any court and could only raise the suspicion that milk was genuine, although the statute ordered a magistrate to take the view that it was not genuine if it

contained less than a specified percentage of fat. A nominal penalty was imposed. It may be mentioned here that it is a fact known to many practical people that Mr. Drinkwater's contention in this case is correct, that in the spring *genuine* milk is below the legal requirements of the Sale of Food and Drugs Acts. This falling off in fat is, I believe, attributed to the change in the food given to cattle at this season. Mr. Drinkwater examined the milk taken from the dairyman directly and found that the milk from the whole herd was deficient in fat. The sympathy of the sheriff with the milkseller was most reasonable. The question is of considerable importance from the public standpoint and if it is desirable to maintain the standard of contained fat as at present those who are responsible for the administration of the Act and the raising of legal action might be obliged to examine the milk as taken from the cows or as brought into town. If it is found that milk in the spring is low in fat the statute either ought to be altered or it ought to be pointed out to dairyowners how the feeding can be modified so as to maintain the legal standard. That the milkseller should be the person punished in such circumstances is, of course, preposterous. This might well be made a reason for an entirely altered method of inspection of the milk supplied to towns.

The Edinburgh Maternity Hospital.

At the annual meeting of the supporters of this institution the report for the past year was submitted by the secretary and treasurer. The number of cases treated in the hospital was 395 and at their own homes 520. The number of nurses trained was 52 and the number of students from the Milne Murray Lodge was 55. The number of students was not considered satisfactory and this aspect of the work was under serious consideration. It was pointed out by speakers at the meeting that the scarcity of students was due to the fact that the number of cases treated was not sufficient to enable students to complete their course in the time they desired. It was thought that were the advantages of the hospital better known to the poor people of the city and if it were known that they could be treated at their own homes greater facilities would be afforded the students. In this connexion it may be well to mention here that in the matter of attending patients at their own homes the Maternity Hospital suffers from the fact that such cases are also taken at the various dispensaries in the city and that the students have no great difficulty in getting their cases at one or another of these and under the superintendence of the obstetrician attached to each dispensary.

Physique of School Children.

At the School of Social Study which is being held during this month at Row Dr. A. K. Chalmers, the medical officer of health of Glasgow, delivered a lecture on the care of children. At the outset he referred to the fact that the South African war had drawn attention to the question of physical inefficiency. At the same time he did not admit the alleged physical deterioration of the nation. He showed the result of a systematic inquiry made in Glasgow schools into the physical condition of the children. This proved the great inferiority not only in physique but in mental capacity of children brought up in one-roomed tenements to those reared two- or three-roomed houses. As regards the question of feeding school children there was no doubt as to the urgency of the need of some such scheme, but the difficulty was how it was to be accomplished. He mentioned that in the schools for crippled children the scholars were fed at the cost of 1½*d.* a day and there had never been any difficulty in recovering the money from the parents.

Cleanliness and Barbers' Shops.

The public health authorities of Glasgow are making a tour of the hairdressing saloons in the city in connexion with the regulations suggested some time ago by the corporation for the improvement of the premises and the raising of the standard of cleanliness. As was stated when the suggestion was first laid before the town council, the great majority of the barbers' shops are conducted on lines entirely in consonance with the desire of the health department but it was felt that these should be granted a certificate to that effect. Accordingly an official inspection of the various premises as regards disinfectants, drainage, &c., is being made with a view to supply diplomas to those who have attained the necessary standard. It is considered that this acknowledgment by the corporation will incite the poorer class of shops to emulate the laudable position of the others, while in the case of the latter the diplomas will afford a guarantee which the public will prize.

The Carswell-Gilchrist Fund.

This fund will close on June 12th next, and meantime subscriptions should be sent to Dr. W. G. Dun, 15, Royal Crescent, West Glasgow.

Detection of Glanders.

On the instructions of the county council the veterinary inspector of Renfrewshire has prepared a return of the number of cases of glanders occurring in the county since Jan. 1st, 1902, together with a report on the supposed causes and the steps which have been taken to stamp out the disease. The return shows that there have been five outbreaks since the date mentioned, four of these being in Pollokshaws and one in Newton Mearns. 61 animals were on the premises; of these six were attacked and had to be killed. In the opinion of the veterinary inspector public watering troughs are a means of spreading the disease. Sometimes difficulty is experienced in disposing of the diseased animals on the premises or within the county and negotiations are at present proceeding with the local authority of Glasgow with a view to have such animals moved into licensed premises within the city for destruction.

Presentation to Dr. W. D. Anderson.

On May 15th, in the dining-room of the Ballachulish Hotel, Dr. W. Dunlop Anderson was presented with a silver salver bearing the following inscription: "Presented to William Dunlop Anderson, M.A., M.B., M.R.C.S., J.P., by his friends in Ballachulish and Glencoe on the occasion of his leaving Ardsheal as a token of their esteem and in recognition of his many public services to the community. May, 1906." Of one of these services we may remind our readers. It was Dr. Anderson's powerful championship of Dr. Lachlan Grant that largely secured the latter's victory in his quarrel with the management of the Ballachulish slate quarries.

Death of Dr. John McGown of Millport.

The death occurred last week of one of Millport's best-known and most respected residents in the person of Dr. John McGown who for nearly 40 years conducted a medical practice in that town. Born at Airdrie in 1834, Dr. McGown became F.F.P.S. Glasg. in 1859 and M.D. St. And. in 1862. After qualifying he went to Millport and there speedily acquired a good practice. During his residence in Millport Dr. McGown took a great interest in public affairs and was in 1864 elected one of the first commissioners and magistrates of the burgh. He also represented at the time of his death the western district of Millport on the county council and was medical officer of health. For the last few years Dr. McGown had been in feeble health and his decease took place at Cardross where he was staying with his daughter.

May 22nd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Dispensary Medical Officers of Ireland.

NOW that the dispensary officers of Ireland have placed a representative of their body on the General Medical Council they are doing their utmost to improve their position. In the Newry union they recently requested that an inquiry should be held as to the inadequacy of their salaries. Sir J. Acheson MacCullagh, Local Government Board inspector, said that in other services a graded scale of salaries had been adopted and he did not see what objection there could be to such a course in the Newry union. The Tralee board of guardians has been induced to discuss a proposal to increase the salaries of the medical officers and has appointed committees consisting of guardians living in each dispensary district to submit their reports to the whole board. The dispensary medical officers of Limerick have adopted a similar course and after much discussion by the guardians the Local Government Board has recently forwarded a letter reviewing all the proceedings and stating that it saw no reason to alter its decision sanctioning an increase of salary

to the officers mentioned. On April 26th Mr. Fetherstonhaugh gave notice in the House of Commons of a question to Mr. Bryce as to whether it would be possible for him to receive a deputation of the Irish Medical Association as to the present condition of the Irish Poor-law medical service. It has just now been announced that a deputation has been appointed to wait on the Chief Secretary in reference to the matter and that it will consist of the President, the chairman of council, and the honorary secretary of the association, with Sir William J. Smyly, Sir Arthur Chance, Professor R. J. Kinkead, Sir William Whitla, Professor H. Corby, Dr. Kidd, and Dr. Greene.

Testimonial to Professor Antony Roche.

At the College of Science, Stephen's Green, Professor Antony Roche, who recently concluded his course of lectures on sanitary science, was presented on May 15th with a piece of silver plate on behalf of 150 students and others who had attended during the past session. Mr. William Field, M.P., occupied the chair.

Belfast Public Health Committee.

I continue from last week the account of the agitation now going on in Belfast in respect of the public health of the city. On May 17th a large deputation from "The Citizens' Public Health Committee" attended a meeting of the Belfast public health committee with a view of pointing out the necessity for securing for the position of medical officer of health now vacant the services of the best qualified man available. One of the deputation, a member of the Labour party, referred to the desirability of the medical officer consulting the interests of the working classes by going amongst them and ascertaining for himself by observation the causes of the high death-rate and low standard of vitality. Alluding to the female sanitary inspectors, he said that they were supposed to be doing good work but he had never seen any of them on duty. The chairman of the public health committee said that the appointment of medical officer of health lay with the city council and was subject to the approval of the Local Government Board of Ireland, while the duties of the medical officer of health were defined and set forth categorically by that Board. The public health committee would make no recommendation to the city council on the subject of the proposed new appointment except as regarded the matter of salary. He said that the executive sanitary officer would show the books to any of the deputation proving the work done by the female sanitary inspectors. Councillor Gregg, M.R.C.V.S., drew the committee's attention to the necessity for precautions being taken to prevent the sale and consumption in the city of milk from cows suffering from tuberculous disease. The public health committee, it was said, had the provisions of a new Bill under consideration but the deputation considered that what is wanted in Belfast is not a mere code of rules for the control of the milk-supply but a practical attempt to put such regulations into action. The local Belfast papers are at present daily giving their readers, by letters of correspondents, details as to the state of the city. One of the latest letters is from a city councillor who, after animadverting upon the insanitary sites upon which a large number of Belfast houses have been built and which, he thinks, must beyond doubt be a potent factor in the swelling of the present high death-rate, winds up his contribution with the following pessimistic observation: "You may appoint the greatest sanitary scientific specialist, but you will never remove the awful unhealthy state of affairs that at present exists in Belfast." Medical men are not so pessimistic as this, but it is generally felt that the situation is a very serious one

The Ulster Medical Society and the Public Health Department of Belfast.

A meeting of the Ulster Medical Society was held in the Medical Institute on May 17th, Dr. William Calwell, the President, being in the chair. On the recommendation of the council the following motion was proposed by Professor J. A. Lindsay, seconded by Dr. J. S. Morrow, and carried unanimously:—

That we, the Fellows and members of the Ulster Medical Society, are strongly of opinion that, in the interests of the citizens of Belfast, and with the object of insuring the confidence of the medical profession, and of bringing the health department of the city into line with what is being done in other cities of similar size and importance, it is absolutely essential (1) that the new medical officer of health should be possessed of high skill, scientific knowledge, and thorough practical training and experience in public health, a subject which has now become a pure speciality; (2) that the present remuneration, which is quite inadequate to attract suitable candidates, should be increased; and (3) that in any rearrangement of duties the new medical officer of health should be sole head of a department in charge of the health of the city in all its branches, and should alone be responsible to the health committee and city council for the proper administration of all matters pertaining to the health of the city.

May 22nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

An Interesting Decision for Medical Men.

A JUDGMENT of great interest to the medical profession has just been given by the Civil Tribunal of the Seine. On August 22nd, 1904, the family of a sick man, at the request of the medical man in attendance, applied to an ambulance society for a male nurse to look after the patient and to give him hypodermic injections of quinine. This nurse gave the patient three injections of hydrochlorate of quinine on August 22nd, 23rd, and 24th. The injections were given in the left leg and on August 24th when the medical man paid a visit to the patient he found that the injections had been improperly administered and eventually an abscess appeared at the site of the injections. The patient therefore brought an action against the ambulance society and demanded 1000 francs damages. On Feb. 16th, 1906, the seventh chamber of the Civil Tribunal of the Seine delivered judgment. The court found that the patient when he asked the ambulance society for the nurse had not definitely shown that he considered that the said nurse should be possessed of sufficient knowledge to give hypodermic injections; that a hypodermic injection is really an operation of minor surgery and in accordance with custom should be given either by the medical man himself or under his personal supervision; that it was quite possible for a hypodermic injection if administered by a person not having the necessary knowledge, or who did not take proper precautions, to bring about grave results; that the giving of such injections did not come under the duties which a nurse might be expected to perform in order to carry out the prescriptions of the medical man; and finally, that it is impossible to verify the claims of the patient seeing that he had been quite well for some time. He was therefore nonsuited as to damages and was condemned in costs.

Injections of Alcohol in Convulsive Spasm of the Face.

At a meeting of the Neurological Society held on May 3rd M. F. Lévy and M. Baudouin showed a patient whom they had treated according to the method of Schloesser. The patient had suffered for two and a half years from unilateral facial spasm which was never entirely absent and which would sometimes awake him from sleep. Two injections of alcohol of 70 degrees each were made through the stylo-mastoid foramen, injection being followed by a transient facial paralysis which lasted for ten minutes after the first injection and for some hours after the second. Since the operation, which had been carried out more than a month previously, the patient had been perfectly free from his trouble.

Boiled Milk.

A circular from the Minister of Public Instruction has just been issued to educational authorities (*recteurs d'académie*). The circular says: "The permanent Commission on Tuberculosis which sits at the Ministry of the Interior, passed a resolution in October, which resolution was renewed in February, founded on statistics which showed that in certain districts (*contrées*) from 60 to 80 per cent. of bovines were tuberculous. The resolution stated that in future all milk supplied to State establishments must be pasteurised, boiled, or sterilised, unless it was known to have come from dairies in which the cows had been proved to be free from tubercle after testing with tuberculin under strict expert supervision." This resolution is of extreme interest to public educational establishments which have boarders. The Minister therefore asks the educational authorities to be good enough, on receipt of the circular, to send precise instructions to the various headmasters of the schools in their jurisdiction to see that in future no milk except that which complies with the instructions above mentioned is used for their boarders.

Sleeping Sickness.

The Geographical Society has organised a mission which will be charged with the task of investigating in Africa sleeping sickness and the methods of prevention. The members of the mission will be three medical men who are also bacteriologists. Two of them will shortly leave for the Congo and the third, who will hold himself in readiness as a

relief, will remain for the present at the Pasteur Institute in Paris. A laboratory will be set on foot at Brazzaville and attached to this laboratory will be a small hospital in which can be treated those suffering from sleeping sickness, whether white or coloured. The mission will have a grant of about 200,000 francs, thanks to which it will be able to carry on its work for some 18 months. The results of the mission's work will be collated at the Pasteur Institute.

Colonial Medical Officers.

The Governor-General of Algeria, M. Jonnard, has just come to a decision concerning colonial medical officers. Heretofore the only conditions with which candidates for the post of colonial medical officer had to comply was that they should be Doctors of Medicine. Henceforward in the nominations for these posts preference will be shown to those candidates who have a diploma of colonial medicine, such as is granted by certain French faculties.

The Treatment of Sea sickness and Allied Conditions.

M. Bardet having been struck with the resemblance which exists between sea-sickness or railway sickness (*mal de voiture*) and the acid crises of hyperchlorhydria and having observed that the vomited matters thrown up by sufferers from sea-sickness, even when the stomach was empty of food, had a markedly acid reaction, came to the conclusion that he might obtain good results by employing the same therapeutic agents which are of manifest assistance to sufferers from gastric hyperacidity. Knowing that validol, the valerianic ether of menthol, has a great effect in calming or even in preventing the gastric crisis, M. Bardet tried validol in a case of railway sickness and ascertained that if the traveller took a preventive dose of about ten drops of this medicament on a lump of sugar he could take a fairly long journey without evil effects. To obtain the very best results the physician must strive to bring about complete saturation of the hydrochloric acid in the stomach and to administer a calmative which is capable of exercising a complex action upon the various organs concerned. With this end in view M. Bardet slightly modified the formula of the calmative mixture prescribed by M. Robin by taking for the vehicle a liqueur which contains validol. M. Bardet's prescription is as follows: Picrotoxine, 0·05 centigramme; hydrochlorate of morphine, 0·05 centigramme; atropine sulphate, 0·01 centigramme; validol, 10 grammes; and white Curaçoa, 24 grammes. This liqueur is taken in teaspoonful doses and the dose may be repeated if necessary from hour to hour so long as the maximum dose of five teaspoonfuls in the day is not exceeded. The patient is advised also to agree to the following regimen. As soon as he sets foot on board the boat he is to take a powder made up of the following: chalk, 3 grammes; hydrated magnesia, 2 grammes; and subnitrate of bismuth, 0·50 gramme. The powder should be taken in 50 grammes of water, to which is added one teaspoonful of the mixture given above. At the first warning of sea-sickness another powder is to be taken together with another spoonful of the mixture, the diet should be most carefully attended to, and the best thing is to take nothing but milk. Later *café au lait* may be taken, or very weak cocoa, dry biscuits, bread and butter, boiled eggs, vegetable purée, or a small quantity of cooked fruit. Five small meals should be taken during the day and the sufferer should not try an ordinary meal unless he feels quite up to it. M. Bardet communicated the result of these researches at a meeting of the Therapeutical Society held in April.

Statistics of Cancer.

On May 18th M. Mathieu and M. Dobrovici communicated to the Hospitals Medical Society the results of some statistics which they had been able to put together at the Andral Hospital upon 5380 patients admitted between Jan. 1st, 1900, and March 1st, 1906. Among them were 58 cases of cancer of the œsophagus and 123 cases of cancer of the stomach. From these figures it appears that of 181 cases of cancer 58—that is to say, about 30 per cent.—are situated in the œsophagus, a number which shows a relative frequency of œsophageal cancer which had not been suspected up to the present.

May 22nd.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Annual Meeting of Medical Men.

AT the annual spring meeting of Swiss medical men, which took place at Aarau on May 20th, the forenoon was occupied by demonstrations held at the well-appointed Cantonal Hospital. In the afternoon at a meeting attended by over 200 medical men, Dr. Silberschmid, professor of hygiene and bacteriology at the University of Zürich, who has replaced Professor Oscar Wyss, read a paper on the Epidemic Occurrence of Cerebro-spinal Meningitis. He said that no correct statistics were obtainable as this disease unfortunately did not yet come under the regulations relative to compulsory notification. It was first described in 1805 when 26 cases ended fatally at Geneva; from 1871 to 1873 there were 35 fatal cases notified in Basle, and Dr. Burkhard had collected notes of about 94 fatal cases that had occurred from 1871 to 1890 in Switzerland. The diagnosis has become much more precise owing to the application of bacteriological methods and since the use of lumbar puncture to obtain cerebro-spinal fluid. Authorities agreed that the disease was most probably due to the meningococcus intracellularis first described by Weichselbaum, an organism which closely resembled the gonococcus. The disease was very virulent and had lately attracted much attention in Germany on account of the occurrence almost exclusively in Silesia of 2916 cases with a mortality of 67 per cent. The first cases of the present outbreak in Switzerland occurred in Aarau on Jan. 25th, 26th, and 31st, 1906, at the barracks, and since that time sporadic cases had been diagnosed in various parts of Switzerland; so far 38 cases had been reported during the current half-year. The meningococcus was found during the life of the patient in 95 per cent. of the cases in the naso-pharyngeal cavity; it was also found in persons in contact with the patients. The disease was undoubtedly contagious but it was most unlikely to spread under the favourable hygienic conditions prevalent in Switzerland and under the active measures taken by the medical authorities to prevent its extension. Immediate isolation and careful disinfection were always carried out and early bacteriological investigation was employed in doubtful and obscure cases. The public must receive due instruction but no alarm need be felt. Professor His of Basle and Dr. Vonwiller of St. Gall also spoke on the same subject.—Professor Jaquet of Basle read a paper on the Diagnostic Points of Arterio-sclerosis of the Abdominal Aorta.

Zürich, May 21st.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Hygiene at the Milan International Exposition.

WHIT-WEEK in the Alta Italia will have special attractions this year—for none more than for the British professional man, glad to escape the "lingering winter" by the "melancholy ocean," if only for a sun-bath on lakes already smiling, as Heine sings:—

"Im wunderschönen Monat Mai
Als alle Knospen springen."

Threading the newly opened Simplon tunnel, which shortens his journey from Calais to Milan by 80 miles, he will reach the Lombard capital with time to spare for a prolonged visit to the International Exposition, replete with interest of every kind, industrial, artistic, and hygienic—the last, indeed, little short of fascinating in its *ensemble* as in its detail. The English section, of course, appeals to the foreigner more than to him, hailing, as he does, from what the local guide calls "la terra classica d'igiene," and familiar as he is with the sanitary innovations which have made such teeming centres as London or Glasgow the envy, if not the despair, of the outlying world. But in the other sections he will find much to draw, and even to rivet, his attention; much, moreover, to induce what Milton calls "studious musing" over the rapid progress of nations hitherto backward but now advancing, so as from imitators or disciples to become livelong models or masters. To begin with, he will be struck with the façade—the pronaos—of the "Padiglione" dedicated to Our Lady Hygeia, a *chef-d'œuvre* in Pompeian style of the architect Signor Orsino Bongi, only to be yet more struck with the *coup d'œil* prepared for him by the accomplished and energetic secretary of the department, Dr. Francesco Rossi. Passing rapidly by an array of glass vases and utensils, including, *inter alia*, all the apparatus for bacteriological and bromatological (or food) analyses, and not delayed by the electric fountains for sterilising water by means of ozone, he will enter the central octagon with its display of sanitary furniture and sanitary engineering as designed for hospitals, prisons, schools, and private

residences, making acquaintance with such recent triumphs as the Acquedotto Pugliese (aqueduct for the Abruzzi) and with the graphic illustrations and reports of the commissioners charged with research into those specially Italian scourges, pellagra and malaria. To his left he will take particular note of the models for children's hospitals; to his right he will study with interest the thermo-syphons of the firm of Signors Serantoni and Pontiglione and the new invention of Signor Matteo Forte of Rome for economising water with the object of refrigeration. Again, Italy is true to her classical traditions in the "sala da bagno" (bathing saloon), in which may be seen, working to perfection, all the apparatus *de précision* for every kind of jet or spray accompanied with means for the immediate drying of the floor; supplemented by an excellent apparatus for the various forms of the douche contributed by the firm of Pellegrini and Jarach. Nor are Teutonic inventions wanting in this subsection—that, for instance, described as the "Macchina Igienica" which washes 3000 plates in an hour with steam at 100° C., cleaning them, sterilising them, and drying them. In fact, it is already in use in the kitchens attached to the Acquario al Parco. Proceeding to the International "Reparto," the visitor will be specially attracted by the contributions of the Swiss Office of Hygiene and thereafter by the splendid assortment of pathological preparations from the Ospedale Maggiore of Milan for the study of tuberculosis. Then, having inspected the competing systems for the best organised distribution of milk in populous centres (the successful competitor receiving a prize of 5000 francs, or £200), he will be drawn on from object to object until he finds himself confronting the magnificent "armamentarium" of the Italian Red Cross which holds its own even against the splendidly equipped German one—Italy displaying specimens of the mountain ambulance on wheels, followed up by models of cycles and tricycles ingeniously adapted for the transport of medico-chirurgical *matériel*, and these again by pattern automobiles for the sick or wounded; the whole supplemented farther on by specimens of floating ambulances for service on the rivers, canals, lakes, and waterways, in which the Alta Italia (erewhile the battle ground of Europe) is exceptionally rich. In this subsection the visitor will not soon forget the two beautiful Red Cross barges, 24 metres long, and the characteristic Venetian *peota*. A whole day, in fact, might be profitably spent in this Red Cross subsection—with its model railway carriages for the invalid or the wounded, its cabins and its field hospitals, among which latter Germany contributes a specimen of that which accompanied her expedition to China six years ago. "Baracche" (cabins) capable of being dismounted and shifted from place to place for purposes of isolation are quite an Italian speciality, as constructed by Signor Martinoti of Lovere, and enable the visitor to appreciate the service that they can render in such calamities as the recent earthquakes in Calabria or the eruption of Vesuvius. Again, in the "warfare of industrial life," in mines, in factories, and such hives of toiling humanity, the contrivances for minimising risks and sources of injury or disease are nobly *en évidence* in the Exposition. Prizes amounting to 12,000 francs (£480) have been offered by the Milanese "Associazione Industriale Italiana" for obviating or antagonising such risks, and the competitors will amply deserve the award if they can improve upon the apparatus already on view for preventing the inhalation of dust or of the detritus of the grinding-wheel and similar causes of pulmonary mischief. Indeed, the forethought and outlay now expended on their employees by the heads of industrial houses and the owners of mines as exemplified in this subsection of the Exposition is one of the most reassuring features of the undertaking, conducive as it must be to conciliate the often jealous, not to say hostile, camps of labour and capital and to smooth down the antagonisms that intervene between them. Milan, herself a past mistress in "scioperi" (strikes) on a general scale and not unprolific in "anarchists," domestic and international, does well to make prominent her care for the interests of labour, thus earning a claim to the gratitude of all who are working in municipal or parliamentary spheres for the solution of one of the burning questions of the day. This department would of itself suffice to attract to the Milanese "World's Show" the visitor of whatever nationality, and not least, the professional man or the publicist from the British Isles, always interested in the amelioration of humanity, whether in the suffering individual or in the severely visited mass.

May 19th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

A Medical School at Salonica and the Progress of Medical Science in Turkey.

THE Ottoman Government has decided to build a medical school at Salonica. The Inspector-General of the Roumelian Provinces has already been enabled to secure the necessary initial funds, amounting to about 4000 Turkish liras (one lira = 18*s.*), which will be contributed partly by the Ministry of Public Instruction and partly by different municipalities. This medical school is intended to be erected on the same working principles as the one existing at Damascus, which latter has been asked to furnish its plans and working scheme. This is another proof of the progress which scientific medicine has made of late in the Ottoman Empire. The Turkish metropolis itself now possesses a good number of hospitals and medical establishments, some of which are very well organised. The Imperial Military Medical School now supplies the Turkish army every year with a numerous staff, while the Imperial Civil School of Medicine sends out annually a large number of qualified practitioners into the provinces. The medical school which was erected not long ago in Damascus serves the provinces of Syria and many of the more important cities in the various provinces now have a hospital. Steps have also been taken to create in the far-away districts institutes for hydrophobic patients on the model of the one working at present with fairly satisfactory results in Constantinople, and this has lately received additional equipment. Also veterinary science, the importance of which is so obvious when a country depends largely on the proper development of agriculture, has made similar strides of late. I may mention also that the Ministry of Public Instruction has lately ordered a large number of the most modern surgical instruments from Berlin. These have already arrived and form a valuable addition to the equipment of the medical schools. The Sultan has sanctioned by a special Imperial *iradé* the lighting by gas of the medical school at Haidar-Pasha on the Asiatic shore of the Marmora.

May 14th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Seistan Plague Riot.

IT seems that whenever plague breaks out in a fresh area a disturbance of some sort is almost sure to follow. The restrictions of even the simplest sanitary precautions are rebelled against. At Seistan, where plague recently appeared, the cause of the disturbance turns out to have been due to the preaching of a mullah who declared that plague was non-existent. The hospitals were wrecked by the mob and Captain T. B. Kelly, I.M.S., and his hospital assistant were assaulted. It is now further reported that the mullah was sent specially from Mashud in order to bring about a popular outbreak. All plague operations are suspended and the disease is said to be spreading northwards rapidly. If the disease spreads to Khorasan it may then extend through Northern Persia into the Caucasus—the old route by which it has spread into Europe before.

The Plague Epidemic.

The plague epidemic is slowly developing again. For the last week 20,478 cases and 17,673 deaths have been reported. The detailed figures are: the Punjab, 7493 deaths; United Provinces, 3812; Bengal, 3518; Bombay, 1914; Kashmir, 226; Rajputana, 193; Burma, 185; Central Provinces, 157; Central India, 124; Madras, 21; Hyderabad State, 19; and Mysore, 17. From other sources I learn that the disease has broken out severely at Jumma, in the State of Kashmir, and that in Bombay city, for the week ending May 1st, 1068 deaths occurred from plague out of a total mortality of 2180. Even this does not probably disclose the whole truth. The significance of these figures is that plague this season is recurring in all the old centres and while diminishing in a few areas which have had their outbreaks it is rapidly developing in others and is extending over wider and wider tracts of country. Reports from Calcutta show that the city has been but slightly attacked this year, only about a third of the usual number of deaths being recorded, but small-pox has been raging severely for several months.

A Provincial Research Laboratory for Bombay.

Under orders from the Government of India a provincial research laboratory has been established at Parel, Bombay. It will be in connexion with the plague research laboratory but the scope of the work will be extended. The main objects are: 1. The affording of assistance to all Government medical officers in the discharge of their duties by fulfilling the functions of a "pathological diagnosis institute" to which specimens of all sorts may be sent for opinion. Work for private persons and institutions can also be done on payment of fees according to the scale that will be laid down by Government. 2. The training of hospital assistants and others in elementary clinical pathology, the performance of inoculations and hypodermic injections, the preparation and use of disinfectants, and other duties which they may be called upon to perform in connexion with their duties as public health officials. 3. The affording of opportunities to medical men who may wish to do original work for themselves or to practise or to be instructed in new methods of diagnosis.

A Curious Corporation Mistake.

A curious corporation mistake is reported from Calcutta. A resident applied to have his house connected with the filtered water-supply. The roadway was opened and the water main exposed, but unfortunately the unfiltered main was tapped instead of the filtered one. A lady living in the house was taken ill and developed enteric fever in consequence, it is said, of using this bad water. The husband claims damages from the corporation but the case is not yet settled. The lady's illness occurred within the usual period allowed for the incubation of enteric fever and the unfiltered water of the city is known to be highly contaminated. In ordinary circumstances it is only used for flushing closets and watering the streets. Although excuses may be made for the mistake it is a most unfortunate one and the corporation should be generous and not contest the claim, which is reported as a very moderate one.

The Second City in the Empire.

Following the declaration of the result of the census in Bombay a calculation has been made of the probable number of the population in Calcutta. Without the suburbs, which are continuous with the northern, eastern, and southern portions of the city, the population is estimated for 1906 at 945,000, and with these suburbs, which by the census numbered over 100,000, the population of the whole city is considerably over 1,000,000. There is no question that Calcutta can maintain its claim as the second city in the empire.

May 5th.

Obituary.

WILLIAM RAE, L.R.C.P. EDIN., M.R.C.S. ENG.

ALL his old friends, indeed all who had the privilege of knowing him, will be deeply grieved at hearing of the death of Mr. William Rae, which took place at his house in Northampton on May 14th. Mr. Rae was one of the best and most popular house surgeons at King's College Hospital under Sir William Fergusson and Mr. John Wood in 1871–72. He afterwards settled in practice with the late Dr. W. A. Barr and Mr. H. B. Spurgin at Northampton and on the demise of the former he soon became one of the leading practitioners of the city. He was most conscientious and painstaking in his work and besides was the possessor of a bright and happy disposition which went far towards winning the confidence of patients. Last year symptoms of cardiac disorder compelled him to give up practice in the hope of restoring his health under the influence of a well-earned rest. Such, however, was unfortunately fated not to be the case. The body was cremated at Woking, his old friend, Canon Hughes, reading the service which was attended by some of his intimate friends who thus paid their last respects to his memory.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Allard, professor of anatomy in the Grenoble Medical School.—Dr. Cruveilhier, formerly surgeon to the Paris hospitals.—Dr. Wolf Becher, a Berlin physician of great and varied attainments not only medical but literary.—Dr. Hecht, formerly professor in the French University of Strasburg. After the war he migrated to Nancy.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen having completed the Final Examination in Medicine, Surgery, and Midwifery of the Conjoint Board, and having complied with the by-laws of both Colleges, the Licence of the Royal College of Physicians was conferred upon them on April 26th, and the Diploma of Member of the Royal College of Surgeons on May 10th:—

Charles Braxton Mooring Aldridge, M.A. Cantab., Cambridge University and London Hospital; Gervase Disney Alexander, B.A. Cantab., Cambridge University and St. Thomas's Hospital; George Hely-Hutchinson Almond, B.A. Oxon., Oxford University and St. Bartholomew's Hospital; John Staines Austin, Birmingham University; Arthur Sydney Blundell Bankart, B.A. Cantab., Cambridge University and Guy's Hospital; George Norton Bartlett, Guy's Hospital; Stanley James Annear Beale, London Hospital; Edwin Beaton, B.A. Cantab., Cambridge University and St. Mary's Hospital; William Beck, Edinburgh University and Bristol; Claude John Eddowes Bennett, Westminster Hospital; Frank Cyril Harvie Bennett, St. Mary's Hospital; Charles Murchison Bernays, St. Thomas's Hospital; John Braybrooke Binns, St. Bartholomew's Hospital; Rowland Alessandro Bowling, St. Bartholomew's Hospital; Samuel John Boyd, M.B. Toronto, Toronto University and University College Hospital; John Henry Richard Brodrecht, M.B. Toronto, Toronto University and University College Hospital; Horace George Brown, B.A. Cantab., Cambridge University and Middlesex Hospital; Ralph Brown, Westminster Hospital; Olliver Bruce, St. Thomas's Hospital; Arthur Savell Burgess, B.A. Cantab, Cambridge University and St. Thomas's Hospital; Percival Butler, University of Birmingham; Herbert Charles, Middlesex Hospital; William Winsland Douglas Chilcott, Charing Cross Hospital; John Clarke, Sheffield University; William Joshua Cowan, Victoria University, Manchester; Duncan Davidson, B.A. Oxon., Oxford University and London Hospital; Edwin Thomas Harries Davies, St. Mary's Hospital; Robert Davies-Colley, B.A. Cantab., Cambridge University and Guy's Hospital; Edmund Michael Dolan, Leeds University and St. Mary's Hospital; John Jackson Whatley Evans, Westminster Hospital; Harold William Farebrother, Charing Cross Hospital; Richard Vernon Favell, St. Bartholomew's Hospital; Stephen Field, St. Mary's Hospital; Cavendish Fletcher, Westminster Hospital; John Rowland Foster, University College Hospital; Claud Francis Fothergill, B.A. Cantab., Cambridge University and Guy's Hospital; Elliott Thornton Glenny, St. Bartholomew's Hospital; Horace Gooch, London Hospital; Charles William Greene, B.A. Cantab., Cambridge University and Guy's Hospital; Reginald Affleck Greeves, M.B. Lond., B.A. R.U.I., Belfast, University College, and Guy's Hospitals; Alfred Herbert Hardcastle, L.S.A., Leeds University; Raymond Sydney Harper, Guy's Hospital; Percy Booth Harrison, Cambridge and Leeds Universities; Arthur Hawkins, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; George Montague Williams Hodges, University College Hospital; Cyril John Roby Hoffmeister, B.A. Cantab., Cambridge University and Middlesex Hospital; Richard Holtby, St. Bartholomew's Hospital; Ernest Theodore Cobbett Hughes, University College Hospital; Cyril Herbert Thomas Ilott, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Harold Mundee Inman, B.A. Oxon., Oxford University and St. Mary's Hospital; William Abel James, University College, Cardiff, and St. Bartholomew's Hospital; Francis Samuel Jones, Cambridge and Liverpool Universities; Thomas Jones Latham, London Hospital; Thomas St. Leger Leyshon, London Hospital; Arthur Rieussett Litteljohn, M.R.C.V.S., St. Mary's Hospital; John McAsh, M.B. Toronto, Toronto University; Charles Murray MacLean, M.D. McGill, McGill University and London Hospital; Ivan Clarkson Maclean, St. Thomas's Hospital; Eugene Augustus Mascarenhas, L.M. & S., Bombay University; George Percival Mills, Birmingham University; Arthur Müllberger, M.D. Munich, Munich University and Middlesex Hospital; Hubert Cowell Mulkern, St. Mary's Hospital; John Orrett Musson, Guy's Hospital; Arthur Herbert Norris, Victoria University, Manchester, and Westminster Hospital; James Jenkins Paterson, University College, Cardiff, and St. Bartholomew's Hospital; Patrick Howard Hennessy Pereira, M.B., C.M. Madras, Madras University and London Hospital; Arthur Robert Phelps, Cambridge University and St. Thomas's Hospital; Harry Garnett Phippen, St. Mary's Hospital; Philip Alfred Reckless, Sheffield University and St. Bartholomew's Hospital; James Ernest Helme Roberts, St. Bartholomew's Hospital; Felix Stephens Rood, University College Hospital; Alfred Martin Roome, Guy's Hospital; Sidney John Rowntree, Middlesex Hospital; Donald Whatley Roy, M.B. Cantab., Cambridge University and St. George's Hospital; Albert Salmon, London Hospital; Douglas Robert Chaplin Shepherd, Middlesex Hospital; James Smalley, M.B., Victoria University, Manchester; Hoyland Smith, Charing Cross Hospital and Sheffield University; James Edmund Smith, St. Bartholomew's Hospital; Leslie Ernest Maule Smith, Charing Cross Hospital; Henry Sessions Souttar, M.A. Oxon., Oxford University and London Hospital; John Heatly Spencer, Charing Cross Hospital; Crispian Stanley-Clarke, Cambridge University and St. Thomas's Hospital; William Joseph Edward Stuttaford, King's College Hospital and Edinburgh University; George Wray Sudlow, Victoria University, Manchester, and University College Hospital; Alfred King Burford Richard William Taylor, Charing Cross Hospital; Arthur George James Thompson,

B.A. Oxon., Oxford University and St. Thomas's Hospital; George Stanley Thompson, St. Mary's Hospital; Henry Letheby Tidy, B.A. Oxon., Oxford University and London Hospital; Joseph Frederic Trewby, St. Bartholomew's Hospital; Thomas Turner, Guy's Hospital; Henry François Vandermin, Guy's Hospital; Guy Tyrrell Verry, St. Bartholomew's Hospital; Harold Sugden Vivian, Middlesex Hospital; Geoffrey Wacher, Guy's Hospital; Maneck Dhunjishaw Wadia, Bombay University and St. Bartholomew's Hospital; Harold Rosser Styleman Walford, St. George's Hospital; John Wallace, B.A. Oxon., Oxford University and St. Thomas's Hospital; Howard Francis Warner, London Hospital; Edward Wight, Cambridge University and St. Thomas's Hospital; and Edwin Joseph Wyler, London Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen have passed the first professional examination in anatomy and physiology for the diploma of Fellow:—

Frederic James Fitzmaurice Barrington, University College Hospital; Mark Bates, B.A. Oxon., St. Bartholomew's Hospital; Melville Birks, M.B., B.S. Adelaide, Adelaide University; David Brown, M.B., Ch.B. Edin., Edinburgh University; George Frederick Buchan, M.B., Ch.B. Glasg., D.P.H. Camb., Glasgow University; John Philip Buckley, B.A. Cantab., Manchester and Cambridge Universities; Harold Chapple, B.A., B.Sc., Cambridge University and Guy's Hospital; Lionel Colledge, B.A. Cantab., St. George's Hospital; Ernest Neville Cook, University College Hospital; John Sephton Cooper, M.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P., Cambridge University and Guy's Hospital; Arthur Henry Crook, B.A. Cantab., Cambridge University; David Davies, London Hospital; Hugh Morriston Davies, M.A., B.C. Cantab., M.R.C.S., L.R.C.P., Cambridge University and University College Hospital; William Robert Douglas, M.B., Ch.B. Vict., B.Sc., Manchester University; Kenneth McKenzie Duncan, M.B., Ch.B. Glasg., Glasgow University; Raymond Broadley Etherington-Smith, M.A., M.B., B.C. Cantab., Cambridge University and St. Bartholomew's Hospital; Ebenezer Ross Faulkner, B.A., M.D. Dalhousie, M.R.C.S., L.R.C.P., Dalhousie University and King's College Hospital; Laurence Otway Fuller, M.R.C.S., L.R.C.P., University College Hospital; Alfred Gough, M.B., Ch.B. Leeds, Leeds University; John Graham, B.Sc., M.B., Ch.B. Glasg., Glasgow University and St. Thomas's Hospital; Wilson Harold Hey, M.B., Ch.B. Vict., M.R.C.S., L.R.C.P., Manchester University; Basil Hughes, B.A. Cantab., B.Sc. Lond., King's College Hospital; Habibmia Ismail Janmahomed, Guy's Hospital; Arthur Norman Leeming, Guy's Hospital; Christian Frederic Louis Leipoldt, Guy's Hospital; Charles Ernest Wheatley Lyth, M.B. Lond., M.R.C.S., L.R.C.P., Sheffield University and King's College Hospital; Thomas McPherson, B.A., M.D. C.M. McGill Univ., M.R.C.S., L.R.C.P., McGill University and King's College Hospital; Edward Kenneth Martin, University College Hospital; Clifford Arthur Moore, M.B., B.S. Lond., M.R.C.S., L.R.C.P., Bristol and King's College; Walter William Moore, M.B., Ch.B. New Zealand, M.R.C.S., L.R.C.P., Middlesex Hospital; John Morison, M.B., Ch.B. Glasg., Glasgow University and London Hospital; Richard Horace Paramore, M.D. Lond., M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; John Ernest Payne, M.A., M.B., B.C. Cantab., Cambridge University and St. Bartholomew's Hospital; Henry Herbert Rayner, M.B., B.Ch. Vict., Manchester University; John Lichtenstein Ritchie, Birmingham University; Charles Leonard Digby Roberts, Edinburgh University; Herbert Henry Sampson, Birmingham University; William Duncan Sturrock, B.A., M.B., B.Ch. Oxon., M.R.C.S., L.R.C.P., Oxford University and King's College Hospital; Vincent Townrow, Guy's Hospital; Charles Henry Shorney Webb, Middlesex Hospital; and Gwynne Evan Owen Williams, M.D., B.S. Lond., M.R.C.S., L.R.C.P., University College Hospital.

At the first professional examination for the Licence in Dental Surgery the following gentlemen passed in the subjects indicated:—

Mechanical Dentistry and Dental Metallurgy.—Leonard Charles Attkins, National Dental Hospital; Herbert George Balls, Royal Dental Hospital; William Gordon Batt, National Dental Hospital; John Eagland Bell, Liverpool; Stanley Bellman, Royal Dental Hospital; William Francis Boxall, Guy's Hospital; Arthur Henry Bridges, Royal Dental Hospital; Sydney William Chetwood, Guy's Hospital; Reginald William Clayton Cooper, Royal Dental Hospital; Arthur Walter Davies, Royal Dental Hospital; Harold John Dear, Guy's Hospital; John William Doherty, Guy's Hospital; Frederic Nicklin Doubleday, Guy's Hospital; William Albert Dredge, Guy's Hospital; Edward Ernest Fletcher, Royal Dental Hospital; Alverstone Harold Gabell, Guy's Hospital; Reginald John Gibbings, Guy's Hospital; Leonard Austin Harwood, Royal Dental Hospital; Philip Reginald Heivar, Guy's Hospital; Herbert Emlyn Jones, Royal Dental Hospital; Leonard John Kemp, Guy's Hospital; Reginald Manton King, Guy's Hospital; Arthur Thirlby Knight, Birmingham; James Pensam Leeming, Manchester; Edward Stephen William Little, Royal Dental Hospital; Alfred Cookman Lockett, D.D.S., Pennsylvania; James Frederick Maguire, Royal Dental Hospital; William Grant Oliver, Guy's Hospital; John Ramsey Palmer, Guy's Hospital; Samuel Stephenson Parkinson, Royal Dental Hospital; Percy James Proud, Guy's Hospital; Lewis Richter, Durham; John Alfred Rose, National Dental Hospital; Ivan Scott Spain, Guy's Hospital; Harry Sturton, Guy's Hospital; Harold Pearson Tait, Guy's Hospital; Wilton Thew, Royal Dental Hospital; Samuel Lewis Tresidder, National Dental Hospital; Hedley Clarence Visick, Guy's Hospital; Andrew Robertson Walker, D.D.S., Pennsylvania; Harold Walker, Guy's Hospital; Alexander Ivan Ward, Royal Dental Hospital; William Thomas Clarkson Webb, Royal Dental Hospital; Robert Graham White, Royal Dental Hospital; William Frederick Whiteley, Guy's Hospital; and Ronald Martin Wormald, Guy's Hospital.

Mechanical Dentistry.—John George Fernie, Royal Dental Hospital; David George Gibb, Royal Dental Hospital; Bernard Goldsmith, National Dental Hospital; William Edwin Guilding, Guy's Hospital; Arthur Martin Henry, Guy's Hospital; Cecil Augustus Joll, Bristol; Percy Edgar Kendall, Guy's Hospital; Isaac Levy, Guy's Hospital; Oswald McGowan, B.A. Cantab., National Dental Hospital; Frank Richard Henry Myers, Sheffield; Leopold Kepler Percy, Royal Dental Hospital; and Harold Osbert Salt, Guy's Hospital.

Dental Metallurgy.—Ernest James Archer, Guy's Hospital; John Button, Manchester; Robert Stanley Capon, Liverpool; Walter Frederic Coe, D.D.S. Pennsylvania; Richard Highton, Liverpool; Frederick Oscar Hume, Guy's Hospital; Maurice Joseph Marks, Guy's Hospital; Lewis Trevor Bamford Matthews, Birmingham; Charles Robert Mower Peaty, Guy's Hospital; Arnold Renshaw, Manchester; and Arthur Brookes Thomason, Manchester.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held in May the following candidates passed in the subjects indicated:—

Surgery.—J. W. Blooker (Sections I. and II.), Amsterdam; H. S. Chate (Sections I. and II.), St. Mary's Hospital; and F. J. Macphail (Sections I. and II.), Liverpool.

Medicine.—H. S. Chate (Sections I. and II.) and H. A. Fenton (Section II.), St. Mary's Hospital.

Forensic Medicine.—H. S. Chate, St. Mary's Hospital; W. J. G. Gayton, London Hospital; R. J. W. McKane, Leeds; O. C. H. L. Moll, Guy's Hospital; and A. F. Palmer, Cambridge and Middlesex Hospital.

Midwifery.—J. W. Blooker, Amsterdam; A. E. Blythman, Sheffield and Charing Cross Hospital; H. S. Chate, St. Mary's Hospital; E. V. Connellan, Bristol; and F. G. Edholm, Charing Cross Hospital.

The Diploma of the Society was granted to the following candidates entitling them to practise Medicine, Surgery, and Midwifery: J. W. Blooker, H. S. Chate, and F. J. Macphail.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.—At a stated business meeting of the Royal College of Physicians of Ireland held on May 11th the following were admitted to the Licence in Midwifery of the College:—

Sorabji Jamasji Bhathena, Krishnaji Waman Dani, Narayan Kashinath Desai, and Solomon Ezekiel Kark.

THE DALRYMPLE HOME FOR INEBRIATES.—The report of this institution for the year ending March 30th, 1906, is a satisfactory one, though the accounts show a slight loss on the year's working. The loss is only £93 and most of this sum was expended in new drainage works. Mr. F. S. D. Hogg, the medical superintendent, whose services are cordially acknowledged by the committee of management, in his report makes some interesting remarks upon the treatment of alcoholic cases. He says, "It is the unscientific belief in an elixir which is the quack's opportunity and it appears that he makes a profit out of his chances and even deludes into purchasing the secret of his panacea some whose professional training should constitute them the least likely victims of chicanery. In passing I allude to the practice (which apparently receives the sanction of many medical men) of treating inebriety by hypodermic injection of strychnine and atropine. These drugs, by the way, have been employed for the purpose by doctors and quacks, openly and secretly, by the mouth or hypodermically, for the last 20 years or so in this and other countries. Now the drugs themselves are useful in some cases; but the alcohol inebriate is readily converted into the drug *habitué* and deliberately to accustom such an one to the use of the needle is to incur a very grave responsibility, if not to court disaster." The dangerous position could not have been better expressed.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.—This hospital, otherwise known as the Victoria Park Hospital, held its annual festival dinner in aid of the funds of the institution on May 11th, Mr. Alderman and Sheriff H. G. Smallman being in the chair, at the Trocadéro Restaurant, Piccadilly-circus, London. This dinner is a great event every year for the numerous working men's societies, hospital societies, and other societies that carry on useful work in the districts round this hospital in the East of London. The representatives of these societies attended the dinner in force to the number of over a hundred and the great enthusiasm that characterised the proceedings of the evening was mainly due to the keen attention and appreciation of these competent critics in hospital economics. The speech of Mr. Frank F. Rylands, who proposed the toast of "The Medical Staff," was received with loud cheers that were especially marked when he declared that considering the fact that hospital medical officers only received thanks for their work instead of fees the least that the public could do was to offer to the medical men concerned the very heartiest thanks. Dr. G. A. Heron, in acknowledging this toast, announced the retirement of Dr. E. Clifford Beale, who had accepted the post of consulting physician, and the resignation of Dr. G. B. D. Adams from the post of

resident medical officer on his acceptance of a post on the resident staff of the King's Sanatorium. The chairman, in proposing "Prosperity to the Hospital," described the immense amount of work done by the institution and stated that since its foundation no less than 38,200 in-patients had been admitted to the wards and 706,787 out-patients had attended the out-patient department. The official announcement that subscriptions had been received amounting to £2483 was greeted with loud applause.

LITERARY INTELLIGENCE.—Messrs. Baillière, Tindall, and Cox announce for immediate publication a fourth edition of Sir William Broadbent's book on "Heart Diseases and their Treatment"; a new edition of Professor T. K. Monro's "Manual of Medicine" (University series); a new "Manual of Anatomy" (University series), by Professor A. M. Buchanan, with many original illustrations in colours; a work on the "New Serum Therapy," by Dr. D. Montgomerie Paton; a second edition of Mr. Ernest Clarke's "Errors of Accommodation and Refraction of the Eye"; and a joint work by Professor May of New York and Mr. Claud A. Worth of the Royal London Ophthalmic Hospital. Professor May's work is well known in this country, it having now run through three editions in a very brief space; the joint authorship, it is hoped, will make it even more acceptable to practitioners and students here.

SEAMEN'S HOSPITAL SOCIETY.—An "At home" at the Royal Albert Dock branch of the Seamen's Hospital Society on May 19th, was attended by about 200 executive officers of all the London and many provincial hospitals. The occasion was the completion by Mr. P. Michelli, secretary of the Seamen's Hospital Society, of his year of office as President of the Hospital Officers' Association, and amongst those present were Sir Francis Lovell, Sir Frederick Young, Captain Tunnard, Mr. Keith D. Young, architect to the Seamen's Society, Mr. W. R. Pite, architect to the new King's College Hospital, Dr. C. F. Harford of Livingstone College, Dr. C. C. Choyce, medical superintendent of the *Dreadnought* Hospital, Captain Worlidge, Mr. Walter Alvey, honorary secretary Hospital Officers' Association, and Mr. Charles T. Walrond, consulting engineer St. George's Hospital and the Children's Hospital, Great Ormond-street. The hospital and London School of Tropical Medicine in connexion therewith were open to inspection, details of the building being given by Mr. Keith D. Young. A lantern demonstration was given in the theatre of the school and a demonstration of microscopic specimens of the parasites of malaria, sleeping sickness, &c., was given by Dr. Stanton in the laboratories. Speeches were delivered by Sir Frederick Young and others and opportunities were afforded for visiting vessels of the Peninsular and Oriental and Ocean lines.

THE NATIONAL HEALTH SOCIETY.—Princess Christian, the President of the National Health Society, distributed certificates of the society's examinations to the successful candidates at a meeting of the society held on May 21st, in the Rubens Room of Grosvenor House, Upper Grosvenor street, London. Lord Derby, the President of the council of the society, was in the chair. The following was moved by Sir Michael Foster:—

> That the work of the National Health Society is deserving of all support; its objects being the diffusion of the knowledge of the laws of health amongst all classes of the community, especially among women, who are responsible for the hygiene of the home and the rearing of healthy children.

He observed that much of the ill-health of humanity arose from people doing wrong when they knew no better. He pointed out that poor women often held very decided views as to the working of the human economy and the causes of disease, but these women were anxious for knowledge and it was the object of the society to enlighten them. The motion was seconded by the Archdeacon of London, supported by Miss Alice Ravenhill and Mrs. J. Burgwin, and on being put to the meeting was carried unanimously. Sir Frederick Treves, in moving a vote of thanks to Princess Christian, informed the meeting that at her suggestion the society had taken up the question of the way in which meat before it came to the table was thrown about and exposed to dirt and infection. Another point for the society to investigate was the manner in which milk was supplied to the public. He did not think that legislation was the best way to attack the question and advocated the plan of rousing public opinion in the matter. Sir Thomas Smith briefly seconded the motion, which was carried by acclamation. A vote of thanks to the Duke and Duchess of Westminster for the use of Grosvenor House was moved by Sir William Broadbent, seconded by Sir Henry W. Lawrence, and carried unanimously, after which the meeting terminated.

MEDICAL MAGISTRATE.—Dr. F. Shufflebotham has been placed upon the commission of the peace for the borough of Newcastle-under-Lyme.

DEATH OF A CENTENARIAN.—Mrs. G. Tovey, who celebrated the hundredth anniversary of her birthday in March last, died at Winford, Somerset, on May 11th.

A BIOLOGICAL INSTITUTE FOR GERMAN EAST AFRICA.—The German Government is about to establish a biological institute in Dar-es-Salam, East Africa, and has appointed Dr. Pütter, *privat-docent* of physiology in Göttingen, as director.

THE CHRISTIAN SCIENCE CASE.—On May 19th, Mr. George Robert Adcock came again before the Westminster police-court charged with the manslaughter of Major Whyte "by wilful neglect between Jan. 26th and April 29th." The prisoner, who gave no address, was further remanded in custody.

MEDICAL SERVICE IN THE CONGO.—The Government of the Congo State has just instituted an obligatory course of instruction for its medical staff before proceeding to Africa. This step has become necessary in consequence of the increasing importance attached to hygiene and sanitation in Central Africa. By the new arrangement medical students after nomination for service on the Congo will have to undergo in Belgium a course of study in pathology, hygiene, and clinical medicine under competent professors practically acquainted with all tropical diseases. Special attention will be paid to practical acquaintance with the use of the microscope, so that the young medical men may be able to make an accurate diagnosis of trypanosomata, ankylostomata, &c. One of the professors, Dr. Jacqué, attached to the provincial institution of serotherapeutics, is to be sent to the Johnston Institute of Liverpool University to follow the course of tropical diseases there before taking up his post as bacteriologist to the new school. Dr. Firket of Liége University and Dr. Van Campenhout, both well known by their works on tropical diseases, will also act among the teaching staff. This practical measure will largely increase the value of the pathological institutions which the State has founded in Central Africa during the last few years.

DONATIONS AND BEQUESTS.—By his will the late Sir David Dale bequeathed £300 to the Darlington Hospital and £200 to the Queen's Nurses' Association.—The treasurer of St. Bartholomew's Hospital has received from the Rahere Lodge of Freemasons £105 towards the building fund.—Among the sums left by will for charitable purposes by the late Mr. Richard Twining are the following: £400 to King's College Hospital, £100 to the Public Dispensary, Stanhope-street, Clare-market, £100 to King's College Convalescent Home, Hemel Hempstead, £50 to the Royal Dental Hospital, Leicester-square, and £50 to the Cancer Hospital, Brompton.—Under the will of the late Miss Claudia Griffiths £5000 are bequeathed to the Neath Nursing Institute, £1000 to Swansea Hospital, and £1000 to the National Hospital for the Paralysed and Epileptics.—Under the will of the late Mr. Thomas Corbett, M.R.C.S. Eng., of Droitwich, the following sums, amongst others, are bequeathed: £1000 to Epsom College, £1000 to the British Medical Benevolent Fund, £500 to the Samaritan Fund for the Relief of Patients Discharged from St. Thomas's Hospital, £500 to the Royal Society for the Prevention of Cruelty to Children, £500 to the Worcester Infirmary, £500 to the British Home for Incurables at Streatham Common, £5000 to Guy's Hospital, £5000 to St. Thomas's Hospital, £5000 to St. George's Hospital, £5000 to the Middlesex Hospital, £5000 to the University College Hospital, £5000 to the Hospital for Sick Children, Great Ormond-street, £5000 to the East London Hospital for Children at Shadwell, £3000 to the Royal Free Hospital, Gray's Inn-road, £3000 to the Birmingham General Hospital, £3000 to the Queen's Hospital, Birmingham, £2000 to the Cancer Hospital, Fulham-road, £2000 to the Gloucester Infirmary, £2000 to the Royal Hospital for Incurables, Putney,

£2000 to the Belgrave Hospital for Children, £1000 to the Alexandra Hospital for Hip Diseases in Children, £1000 to the Rhyl Convalescent Home for Children, £1000 to the Rhyl Convalescent Home for Women, £1000 to the Rhyl Convalescent Home for Men, £1000 to the Midland Home for Incurables, £1000 to the Seaford Convalescent Home, and such a sum (probably about £1000) as will provide in perpetuity an annual income of £25 towards the salary of a medical man to attend the inmates of the almshouses at Wychbold, Droitwich. The balance of his late brother's residuary estate he has left in trust for, among other purposes, the building of cottage hospitals in Droitwich and in Malvern in memory of his brother and for a sanatorium for the county of Worcester.

ODONTOMES.—A feature of the recent meeting of the British Dental Association in London was the unique collection of odontomes and kindred specimens brought together by the energy of the museum committee. The idea of the executive of the association was to select a subject which would help to advance the knowledge of pathology and, cognisant of the difficulties which are encountered in investigating solitary cases of tooth tumours and abnormal teeth, it was thought that the collection of a large number of specimens would assist in elucidating some of the problems awaiting solution. An examination of the specimens, numbering nearly 400, leads to the hope that light has been thrown upon some hitherto obscure points. It is, we understand, the intention of the British Dental Association to issue in the form of a monograph a fully illustrated account of the specimens contained in the museum and we hope when this is published to refer more in detail to some of the specimens shown.

THE NATIONAL LEAGUE FOR PHYSICAL EDUCATION AND IMPROVEMENT.—A meeting of this league was held on May 16th, at Denison House, Vauxhall Bridge-road, London, which was presided over by the Bishop of Ripon. The object of the meeting was to promote public interest in the aims of the league and the Bishop of Ripon in the course of his address from the chair pointed out that the league fulfilled a useful part in coördinating the work of associations affiliated to the league which directed their efforts towards the improvement of the health and physical conditions of the people. He was glad to say that the Twentieth Century League had now been affiliated to the National League. After referring to the provisions in the Education Bill now before Parliament the Bishop declared that he did not believe the medical inspection of schools would be unpopular among parents. Sir Lauder Brunton also addressed the meeting and dwelt on the importance of remembering that the league was in no sense intended to work in rivalry with existing societies but to confederate them so as to help forward the general advance towards the objects which they all had in view. Amongst the other speakers were Major-General Sir F. Maurice, Mrs. M. A. D. Scharlieb, M.D. Lond., Mr. J. C. Rickett, M.P., and Mr. D. Eyre.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The President (Mr. John Tweedy), the Vice-Presidents (Mr. Henry T. Butlin and Mr. Edmund Owen), and the Council of the Royal College of Surgeons of England entertained at dinner on May 18th the Norwegian Minister (Dr. Nansen), Baron Takaki, F.R.C.S., Field-Marshal Sir George White, Sir Edward Fry, Lord Justice Cozens-Hardy, Sir Joseph Dimsdale, Sir Richard Douglas Powell (President of the Royal College of Physicians), Sir George Young, Vice-Admiral W. H. Henderson, the Hon. John Collier, the Master of the Temple, Sir Alexander Binnie (President of the Institution of Civil Engineers), Sir Thomas Smith, Sir Frederick Treves, Lieutenant-Colonel Sir Havelock Richard Charles, I.M.S., K.C.V.O., the Masters of the Mercers', Grocers', Drapers', Clothworkers', Apothecaries', Leathersellers', and Saddlers' Companies, Captain de Courcy Hamilton, R.N., Mr. Almeric FitzRoy, Mr. Jonathan Hutchinson, Mr. Thomas Bryant, Professor Percy Frankland (President of the Institute of Chemistry), Professor G. Sims Woodhead, Mr. Giraud Browning, Mr. Sidney Lee, Inspector-General H. M. Ellis (Director-General of the Royal Navy Medical Service), Surgeon-General A. H. Keogh (Director-General of the Army Medical Service), Surgeon-General A. M. Branfoot, I.M.S., and the Rev. J. L. Evans. The members of the Council present on the occasion were Mr. John Langton, Professor Howard Marsh, Mr. Henry Morris, Mr. A. W. Mayo Robson, Mr. R. J. Godlee, Mr. W. Watson Cheyne, Mr. H. W. Page, Mr. J. Ward Cousins, Mr. A. Pearce Gould, Mr. J. H. Morgan, Mr. H. H. Clutton, Mr. C. W. Mansell Moullin, Mr. C. T. Dent, Mr. G. H. Makins, Mr. F. S. Eve, Mr. A. A. Bowlby, Mr. C. H. Golding-Bird, Mr. W. H. Cripps, with Professor C. Stewart (conservator), Mr. R. H. Burne, and Mr. S. F. Cowell (secretary). After the dinner the President presented the honorary gold medal of the College to Lieutenant-Colonel Sir Havelock Richard Charles, I.M.S. K.C.V.O.

Parliamentary Intelligence.

HOUSE OF LORDS.

TUESDAY, MAY 22ND.

Poisons and Pharmacy Bill.

This Bill was read a third time and sent to the House of Commons

HOUSE OF COMMONS.

WEDNESDAY, MAY 16TH.

Promotion in the Royal Army Medical Corps.

Mr. ARTHUR LEE asked the Secretary of State for War whether his attention had been drawn to the block of promotion now existing in certain ranks of the Royal Army Medical Corps, as a result of which no promotions of warrant officers to the rank of quartermaster had been made since 1902, although 14 vacancies had occurred during that period (all such vacancies having been absorbed); and whether, with a view to mitigating the resulting hardship to senior warrant officers of the corps, he would consider the advisability of absorbing in future alternate vacancies only until the ordinary flow of promotion was restored.—Mr. HALDANE replied: The block of promotion in the senior ranks of the corps, which arose from the number of promotions made during the war, was very thoroughly considered in the early part of last year. The remedy proposed in the question was one of the many suggestions which were put forward, but it was found that inequalities of treatment of individual cases would arise therefrom and on this account it was advisedly rejected.

Royal Commission on Bovine Tuberculosis.

Mr. FIELD asked the President of the Local Government Board whether he would state what was the cause of the delay in issuing the interim report of the Royal Commission on Bovine Tuberculosis; when it was likely to be issued; and whether a definite result and recommendation to meat inspectors and medical officers of health might be expected from the experiments now being carried on at Stanstead.—Mr. BURNS answered: As I have stated on a previous occasion, the Royal Commission has a report in preparation, together with an appendix containing the details of a large amount of experimental work. I understand that it does not think it desirable to publish the report until the appendix, which is of a voluminous character, is complete. I am informed that it cannot state definitely when it will be issued, but that it is anxious that it should be published as soon as possible. As regards the last part of the question, I hope that a definite result may be obtained from the experiments at Stanstead, but I cannot at present make any statement on the subject.

THURSDAY, MAY 17TH.

Juvenile Smoking.

Dr. MACNAMARA asked the Secretary of State for the Home Department whether his attention had been called to the unanimous recommendation of the Committee on Physical Deterioration (1904) to the effect that legislation should be introduced for the purpose of dealing with the evils of juvenile smoking, and whether he would suggest to the Prime Minister the desirableness of appointing a Select Committee to consider how best effect might be given to this recommendation.—Mr. GLADSTONE answered: Bills on this subject have been introduced both in this House and in another place. If either Bill is read a second time there would be no objection on the part of the Government to its being referred to a Select Committee.

Secretaries and Accountants of Public Lunatic Asylums.

Mr. COGAN asked the Secretary of State for the Home Department whether the secretaries and accountants of the public lunatic asylums in England, Scotland, and Wales were directly responsible to their several committees of management for the due performance of their duties or to the resident medical superintendent; and whether he alone was responsible to the committee and exercises complete control over those officers under his committee.—Mr. GLADSTONE said: There are no secretaries or accountants in public asylums in England and Wales. The officers who deal with the supply and distribution of stores, the keeping of certain books and documents, and of the accounts of receipt and expenditure are: (1) the clerk and steward, the two offices being almost invariably held by the same person; and (2) an outside independent auditor. The former, being resident, is usually subordinate and immediately responsible to the medical superintendent who has paramount authority in the asylum subject to the supreme control of the committee of management, statutorily called the visiting committee; the latter is responsible and reports to the visiting committee alone. The clerk of the asylum is intrusted by statute with the keeping of accounts, books, and documents, in respect of which he is therefore directly responsible to the visiting committee. As regards Scotland, clerks and treasurers of district lunacy boards are naturally solely responsible to those boards.

Vaccination.

Mr. LUPTON asked the President of the Local Government Board whether his attention had been called to the inquest held on May 14th in the Tooting Vestry-hall on the body of Blanche Mabel Reed, killed by vaccination, and to the statement of Dr. Samuel Edmund Bligh of High-street, Tooting, that the vaccination was abnormal and that the lymph which he used was supplied from the National Vaccine Establishment; and whether considering the frequency of such cases leading to serious illness or death he would stop the issue of matter from the National Vaccine Establishment until some harmless mixture had been discovered.—Mr.

BURNS answered: I have seen a newspaper report of the inquest and have caused some inquiry to be made as to the matter. I do not understand that there was any evidence to show that the death was caused by vaccination. The post-mortem examination proved that the child died from broncho-pneumonia. I also understand that Dr. Bligh in the statements referred to in the question meant that he regarded the case as abnormal in so far as there was delay in the healing of the arm and that now and then a case arises where there is delay of this kind owing to accidental causes. I am not aware that it is the fact that cases of serious illness or death frequently result from vaccination from the lymph supplied from the National Vaccine Establishment, and I could not take any such action as that suggested.

MONDAY, MAY 21ST.

Vaccination Exemption Certificates.

Mr. JOHN ROBERTSON asked the Secretary of State for the Home Department whether his attention had been called to the repeated refusals of the Barrow magistrates to grant a certificate of exemption from vaccination to Mr. William Watts, of 20, Westmoreland-street, Barrow-in-Furness, and whether he would take any action in the matter.—Mr. GLADSTONE answered: My attention has not been called to the case in question but I am at the present moment issuing from my department a circular to justices setting out what I am advised is the intention of the law respecting the grant of certificates of exemption.

The Post-Office and Vaccination.

Mr. T. F. RICHARDS asked the Postmaster-General whether he would consider the advisability of allowing the employees of his department who have a conscientious objection to vaccination to claim exemption.—Mr. BUXTON replied: The question is one affecting the whole Civil Service. I do not see my way to make a change.

Boards of Guardians and Infectious Hospitals.

Mr. JOHN O'CONNOR asked the Chief Secretary to the Lord Lieutenant of Ireland whether, with the view of meeting cases of people who are suffering from infectious diseases, but who are not destitute poor within the meaning of the Irish Poor-Law Relief Acts, and in view of the fact that it has been decided by the county court judge of Kildare that such persons cannot be compelled to pay for their maintenance in the workhouse hospital, he would consider the advisability of issuing orders showing how far district councils have power, under the existing law, to provide district hospitals for cases of infectious disease and how far boards of guardians can enter into agreements for the use of such hospitals for the accommodation of their cases.—Mr. BRYCE replied: The Local Government Board does not think that any necessity exists for the issue of an instructional circular as suggested.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ALFORD, E. FRANK R., M.R.C.S., L.R.C.P. Lond., has been appointed Resident Medical Officer at the City of London Hospital for Diseases of the Chest.

COOMES, CAREY, M.D., B.S. Lond., has been appointed Demonstrator of Pathology to University College, Bristol.

FRESHWATER, J. D. H., M.B. Cantab., has been appointed House Physician at the Essex and Colchester Hospital.

GARDINER, PETER, M.D., C.M. Glasg., D.P.H. Lond., has been appointed District Medical Officer by the Redruth (Cornwall) Board of Guardians.

HALL, ARTHUR, M.D. Cantab., has been appointed Visiting Physician to the Sheffield Union Hospital.

HAYES, T. CRAWFORD, M.D. Dub., F.R.C.P. Lond., has been appointed Professor Emeritus of King's College and Consulting Physician to the Hospital.

LYNCH, D., M. D., M.Ch. R.U.I., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Slieveragh District of the county of Cork.

MARSHALL, J. A., M.D. Durh., has been appointed House Surgeon at the Swansea Hospital.

SARGENT, PERCY W. G., M.B., B.C. Cantab., F.R.C.S. Eng., has been appointed Assistant Surgeon to the National Hospital for the Paralysed and Epileptic, Queen-square.

STEEN, ROBERT HUNTER, M.D. Lond., has been appointed Demonstrator in Psychological Medicine at King's College.

STRATFORD, HOWARD M., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at the Essex and Colchester Hospital.

TELLING, W. H. MAXWELL, M.D., B.S. Lond., has been appointed a Clinical Lecturer in Medicine to the University of Leeds.

TURTLE, G. DE B., M.D., B.S. Durh., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Obstetric Registrar and Tutor to King's College Hospital.

WILKINSON, GEORGE, M.B. Cantab., has been appointed Visiting Surgeon to the Sheffield Union Hospital.

WILTSHIRE, H. W., M.A. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Sambrooke Medical Registrar to King's College Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BETHLEM HOSPITAL.—Two Resident House Physicians, unmarried, for six months. Salary at rate of £25 each per quarter, with board, &c.

BIRMINGHAM WORKHOUSE INFIRMARY.—Assistant Resident Medical Officer. Salary £104 per annum, with apartments, rations, &c.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Surgeon. Salary £50, with board, rooms, and attendance.

CANCER HOSPITAL, Fulham-road, London, S.W.—Surgical Registrar. Honorarium £26 5s. per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon. Salary at rate of £50 per annum, with board and residence. Also Pathologist.

CHARING CROSS HOSPITAL.—Assistant Physician.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, London, S.W.—Surgeon.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at the rate of £30 per annum, with board and residence. Also Surgeon Dentist.

CORNWALL COUNTY ASYLUM, Bodmin.—Third Assistant Medical Officer, unmarried. Salary £135, rising to £155 per annum, with board, apartments, washing, &c.

COUNTY OF LONDON.—Woman Inspector under the Midwives Act, 1902. Salary £150 a year, rising to £250.

COVENTRY AND WARWICKSHIRE HOSPITAL, Coventry.—Honorary Medical Officer.

DEVON COUNTY ASYLUM.—Third Assistant Medical Officer. Salary £125, rising to £155 per annum.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon. Salary £40 per annum, with residence, board, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Assistant Surgeon.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark.—House Physician and House Surgeon. Salary £80 respectively, with board, residence, and washing. Also Assistant House Surgeon. Salary £70, with board, residence, and washing.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

HUDDERSFIELD INFIRMARY.—Senior House Surgeon. Salary £80 per annum, with board, residence, and washing.

HULL, ROYAL INFIRMARY.—House Physician, unmarried. Salary £100 per annum, with board and apartments. Also Casualty House Surgeon. Salary £50 per annum, with board and lodging.

ITALIAN HOSPITAL, Queen-square, London, W.C.—House Surgeon for six months, renewable. Salary £60 per annum, with board and residence.

LANCASTER, COUNTY LUNATIC ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £250, with board, lodging, and washing.

LEICESTER INFIRMARY.—Assistant House Surgeon. Salary £50 per annum, with board, apartments, and washing.

LIVERPOOL, ROYAL SOUTHERN HOSPITAL.—Junior House Surgeon. Salary £60 per annum, with board, washing, &c.

LONDON HOSPITAL, Whitechapel, E.—Surgical Registrar.

MANCHESTER ROYAL INFIRMARY CONVALESCENT HOSPITAL, Cheadle.—Assistant Medical Officer, unmarried, for six months. Salary at rate of £80 per annum, with board and residence.

MANCHESTER, ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Medical Officer. Salary £60 per annum, with board and residence.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Resident Medical Officer. Salary £100 per annum, with board, residence, and washing. Also Pathologist and Bacteriologist. Salary £75 per annum, with lunch.

NORTHUMBERLAND HOUSE PRIVATE ASYLUM, Finsbury Park, N.—Assistant Medical Officer. Salary £120 per annum.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—Assistant House Surgeon for six months, renewable. Salary at rate of £50 per annum, with board, residence, and washing.

ROCHFORD UNION.—District Medical Officer, Public Vaccinator, and Workhouse Medical Officer.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Medical Officer to the Roentgen Ray Department. Honorarium 25 guineas per annum.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck-street, Cavendish-square.—Honorary Dental Surgeon.

UNIVERSITY COLLEGE, London.—Assistant Dental Surgeon.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Surgeon for six months. Honorarium of £25, with board and lodging. Also Surgeon to Out-patients.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician for six months. Board, lodging, and laundry allowance provided.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Surgeon.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Barking, in the county of Essex, and at Kinghorn, in the county of Fife.

Births, Marriages, and Deaths.

BIRTHS.

LACKIE.—At 1, Randolph-crescent, Edinburgh, on the 21st inst., the wife of J. Lamond Lackie, M.D., F.R.C.P.E., a daughter.

SMITH.—On May 7th, at Mossel Bay, S. Africa, the wife of Douglas Wilberforce Smith, M.B., B.S. Lond., of a daughter.

SMITH.—On May 17th, at High Down, Hindhead, the wife of Gilbert Smith, M.D., F.R.C.S., of a son.

MARRIAGE.

HUMPHRY—THOMSON.—On April 28th, at Kurseong Church, Bengal, Arthur Dumville Humphry, M.R.C.S., L.R.C.P., to Margaret Hardie, daughter of the late Grahame Hardie Thomson and of Mrs. G. H. Thomson.

DEATHS.

HALL.—On May 15th, at Mapesbury-road, N.W., Alfred Richard Hall, M.D.

MILLER.—On 23rd May, Edith Alice, wife of Robert Miller, M.D., of "The Laurels," Woodgrange-road, Forest Gate, Essex, aged 42.

Notes, Short Comments, and Answers to Correspondents.

BODIE, THE QUACK.

THERE is a person who calls himself "Dr." Bodie and who pretends to cure the lame and the halt by means of electricity. He advertises largely and presumably makes large sums of money. A light was thrown upon his methods in a case tried at the Clerkenwell Sessions on May 22nd when a man named Ernest Miller with a crippled leg and a "withered left arm" was sentenced to 18 months' hard labour for stealing a watch and chain. Sundry previous convictions were proved against the prisoner, including one of 21 months' hard labour, and the prisoner pleaded in extenuation of punishment that before and after that sentence he had worked for "Dr." Bodie. On Mr. McConnell inquiring who "Dr." Bodie might be Detective Ratcliffe is reported as saying, "He goes on the music hall stage and pretends to cure crippled people. The prisoner used to go on and hop about and make out that he had been cured. The next night he would go on again." Mr. McConnell then said to the detective, "He was one of the sham cures?" to which the detective replied, "Yes, my lord, and he got worse every night." It is quite evident from this conversation that the police are perfectly well acquainted with "Dr." Bodie. We hope that they will keep an eye upon his future movements.

RELAPSES IN TYPHOID FEVER.

To the Editors of THE LANCET.

SIRS,—A few years ago it was suggested in THE LANCET that relapses in typhoid fever were possibly due to reinfection of the patients from their own discharges. It was said that at one important London hospital trial was being made of regular frequent disinfection of the patients' hands to see if this would diminish the tendency to relapses. I shall be glad if any of your readers can give me information as to the result of the experiment. I am, Sirs, yours faithfully,

May 19th, 1906. IOTA.

THE INFAMOUS ACCUSATION AGAINST DR. A. E. JONES.

To the Editors of THE LANCET.

SIRS,—Will you allow me to acknowledge in THE LANCET the receipt of the following subscriptions?

I am, Sirs, yours faithfully,

45, Queen Anne-street, W., May 22nd, 1906. C. WYNN WILLIAMS.

	£	s.	d.		£	s.	d.
Mr. Rickman J. Godlee...	5	5	0	Mr. George Pernet	1	1	0
Mr. John Tweedy	5	5	0	Dr. W. M. Abbot Anderson	1	1	0
Dr. H. Morley Fletcher	3	3	0				
Mr. A. G. Southcombe ...	2	2	0	Mr. H. M. Rigby	1	1	0
Mr. J. Herbert Parsons...	2	2	0	Mr. H. Secker Walker ...	1	1	0
Mr. P. Sidney Spokes ...	2	2	0	Dr. James B. Byles ...	1	1	0
Dr. H. R. Andrews... ...	1	1	0	Dr. S. H. Bown	1	1	0
Dr. Andrew Duncan ...	1	1	0	Mr. J. Breward Neal ...	0	10	6
Mr. Sydney Stephenson	1	1	0				

THE PREVENTION OF DUST ON ROADS.

THE *Engineer* of May 18th states that the Northwich urban district council has, as an experiment, been watering the roads with a calcium chloride liquor to prevent dust. The liquor is sprinkled over the road from an ordinary watering cart. It has proved to be an admirable dust preventive and, having regard to the longer time during which it was effective, it has not been so costly as ordinary street watering.

A DESERVING CASE.

WILL "C. S.," whose letter under the above heading appeared in THE LANCET of March 3rd, kindly send us his address, as it has been mislaid?

Etiquette.—The black cockade is of German origin and was adopted by the adherents of the House of Hanover and signified that the wearer was a servant in some military capacity of that House. By custom it has come to be considered, strictly speaking, as a badge only to be worn by servants of those holding commissions in His Majesty's forces (or those who by courtesy may be regarded as such) or of those who on retiring are specifically allowed to retain the use of it. The servants of ambassadors may also wear cockades. Reference to the subject will be found in THE LANCET of Sept. 17th (p. 872), Sept. 24th (p. 932), and Oct. 1st (p. 992), 1904.

Scrutator.—In certain circumstances it is good that laymen should have the information which our correspondent desires. Mere curiosity would not be a good reason. By far the simplest and practically the only method would be to apply to one of the physicians or surgeons, preferably after receiving a private introduction.

E. W.—We do not know of any medical man in the neighbourhood indicated who could offer such services but our correspondent could probably obtain the information by inquiry from his medical adviser.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (3 P.M.).

TUESDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (30th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (31st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (2nd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (28th).—ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M. Council. 8 P.M. Casual Communication:—Mr. J. Bland-Sutton: An Odontome. Paper:—Mr. O. Fergus: Certain Considerations regarding Inlay Fillings.

TUESDAY (29th).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers:—Dr. F. W. Mott: On the Changes in the Nervous System in Trypanosome Infections.—Dr. F. P. Weber: Symmetrical Adenomata of the Suprarenal Glands with Atheroma of Aorta.—Mr. F. Hobday: Abnormalities in Cases of Retained Testicle in the Horse.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (28th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. J. J. Pringle: Clinique. (Skin). 5.15 P.M. Lecture:—Dr. C. O. Hawthorne: Functional Hemiplegia.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M. Dr. Low: Tropical Medicine. Medical and Surgical Wards. 11 A.M. Operations in Out-patient Department. 12 noon. Pathological Demonstration. 2 P.M. Medical and Surgical Clinics. 2.30 P.M. Operations. 3 P.M. Dr. Hood: Demonstration in Surgical Wards. 5 P.M. Mr. Ll. Williams: On Dental Subject.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M. Operations. Sir D. Duckworth: Medicine. 3.15 P.M. Mr. W. Turner: Surgery. 4 P.M. Dr. StClair Thomson: Throat and Ear. Out-patient Demonstrations:—10 A.M. Surgical and Medical. 12 noon. Ear and Throat.

CHARING CROSS HOSPITAL.—4 P.M. Mr. T. Collins: Demonstration (Ophthalmological). (Post-Graduate Course.)

TUESDAY (29th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. Taylor: Clinique. (Medical.) 5.15 P.M. Lecture:—Dr. G. Oliver: On Some Practical Aspects of Blood Pressure Gauging.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M. Medical and Surgical Wards. 10.30 A.M. Gynæcological Operations. 11 A.M. Operations in Out-patient Department. 2 P.M. Medical and Surgical Clinics. 2.30 P.M. Operations. Skin Department. Throat, Nose, and Ear Department. 5 P.M. Dr. Low: Ankylostomiasis.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M. Operations. Dr. R. T. Hewlett: Medicine. 3.15 P.M. Mr. Carless: Surgery. 4 P.M. Mr. M. Morris: Diseases of the Skin. Out patient Demonstrations:—10 A.M. Surgical and Medical. 12 noon. Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Clinical Lecture:—Sir W. Gowers.

NORTH-EAST LONDON POST GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Lecture:—Mr. W. Edmunds: New Growths of the Intestinal Tract with their Treatment.

WEDNESDAY (30th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Pardoe: Clinique. (Surgical). 5.15 P.M. Lecture:—Dr. H. Tilley: Hoarseness—its Clinical Significance, Diagnosis, and Treatment.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M. Medical and Surgical Wards. Dr. Bali: Throat, Nose, and Ear Operations. Dr. Saunders: Medical Diseases of Children. 11 A.M. Operations in Out patient Department. 12 noon. Dr. Russell: Medicine. 2 P.M. Medical and Surgical Clinics. 2.30 P.M. Operations. 5 P.M. Dr. Beddard: Practical Medicine.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M. Operations. Dr. F. Taylor: Medicine. 3.15 P.M. Mr. M. Robson: Surgery. 4 P.M. Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M. Surgical and Medical. 11 A.M. Eye.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Demonstration:—Mr. C. Nourse: Nasal Accessory Sinuses.

THURSDAY (31st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical). 5.15 P.M. Lecture:—Mr. J. Sherren: Some Points in the Surgery of the Peripheral Nerves.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M. Medical and Surgical Wards. Dr. Low: Tropical Medicine. 11 A.M. Operations in Out-patient Department. 12 noon. Mr. Baldwin: Practical Surgery. 2 P.M. Medical and Surgical Clinics. 2.30 P.M. Operations. 4 P.M. Mr. Keetley: Demonstration in Surgical Wards. 5 P.M. Mr. Baldwin: Practical Surgery.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M. Operations. Dr. G. Rankin: Medicine. 3.15 P.M. Sir W. Bennett: Surgery. 4 P.M. Mr. M. Davidson: Radiography. Out patient Demonstrations:—10 A.M. Surgical and Medical. 12 noon. Ear and Throat.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Lecture-Demonstration:—Mr. de Prenderville: On the Administration of Anæsthetics.

CHARING CROSS HOSPITAL.—4 P.M. Dr. Mott: Demonstration (Medical). (Post-Graduate Course.)

HOSPITAL FOR SICK CHILDREN (Gt. Ormond street, W.C.).—4 P.M. Lecture:—Mr. Collier: Operations in Infancy.

FRIDAY (1st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. L. Paton: Clinique. (Eye).

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M. Medical and Surgical Wards. Dr. Shuter: Anæsthetics. 10.30 A.M. Dr. Moullin: Gynæcological Operations. 11 A.M. Operations in Out-patient Department. 2 P.M. Medical and Surgical Clinics. 2.30 P.M. Operations. Dr. Abrahams: Skin Department.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M. Operations. Dr. R. Bradford: Medicine. 3.15 P.M. Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M. Surgical and Medical. 12 noon. Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Clinical Lecture:—Dr. F. Buzzard: Myasthenia Gravis.

SATURDAY (2nd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M. Medical and Surgical Wards. Dr. Bali: Throat, Nose, and Ear Operations. 11 A.M. Operations in Out-patient Department. 12 noon. Dr. Russell: Medicine. 2 P.M. Medical and Surgical Clinics. 2.30 P.M. Operations. Dr. Robinson: Diseases of Women.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich.)—2.30 P.M. Operations. Out-patient Demonstrations:—10 A.M. Surgical and Medical. 11 A.M. Eye.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 24th, 1906.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 18	29·55	S.E.	...	101	75	41	43	49	Cloudy
,, 19	29·67	N.	...	100	63	44	48	50	Cloudy
,, 20	29·70	W.	...	61	50	48	47	48	Cloudy
,, 21	29·81	N.E.	0·48	91	55	44	46	50	Cloudy
,, 22	29·95	E.	...	94	60	45	45	48	Overcast
,, 23	29·82	S.E.	...	121	70	47	55	60	Fine
,, 24	29·70	S.	0·05	98	64	55	57	62	Cloudy

During the week marked copies of the following newspapers have been received:—*The Oban Times, Westminster Gazette, Cardiff News, Yorkshire Herald, Leicester Mercury, Manchester Chronicle, Liverpool Express, Halifax Courier, Shields Gazette, Notts Express, Islington Gazette, Bury Guardian, Southwark Recorder, Chiswick Times, Kensington Times, Marylebone Mercury, Cardiff Weekly Mail, Belfast News Letter, Sheffield Independent, Sheffield Telegraph, Cork Constitution, Hertford Standard, Sunderland Echo, Glasgow Herald, Literary Digest (New York), &c.*

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